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ABSTRACT

The Instructional Program Planning and Evaluation System (IPPES) Master Objectives Bank of the Jackson Public Schools, Michigan, provides a complete listing of the science instructional topics and objectives for kindergarten through the sixth grade. Each item is coded with a ten-digit number, which enables the user to categorize a given objective or to locate a given objective according to the following system: (1) the first two digits of the code indicate the subject matter area, classified under the headings of mathematics, reading and grammar, science, social studies, and writing skills and written expression; (2) the third and fourth digits indicate the grade level; (3) the fifth, sixth, and seventh digits indicate the topic of the instructional unit covered by the objective, and these topics together with their assigned codes are listed on the Topic Summary Sheet; and (4) the eighth, ninth and tenth digits indicate the objective within the topic, all allowing for a maximum of one thousand objectives to be grouped under a single instructional unit topic. In this volume the topics are listed alphabetically, and then objectives under each topic are further ordered according to grade level. This work was prepared under an ESEA Title III contract. (JR)

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I.P.P.E.S. MASTER OBJECTIVE

SCIENCE INSTRUCTIONAL TOPIC

JACKSON PUBLIC SCHOOLS

INSTRUCTIONAL PROGRAM
PLANNING & EVALUATION SYSTEM

290 WEST MICHIGAN AVENUE
JACKSON, MICHIGAN 49201

Funded under Title III, ESEA of 1965,
Michigan Department of Education Project Number 0621

SE 016 293

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MASTER OBJECTIVES BANK

STRUCTIONAL TOPIC CATALOG

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EDUCATION & WELFARE
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JACKSON PUBLIC SCHOOLS

INSTRUCTIONAL PROGRAM
PLANNING & EVALUATION SYSTEM

290 WEST MICHIGAN AVENUE
JACKSON, MICHIGAN 49201

Funded under Title III, ESEA of 1965,
gan Department of Education Project Number 0621

ITEM CODE NUMBERS

Each item of the I.P.P.E.S. Master Objectives Bank is coded with a ten digit numera user to categorize a given objective or to locate a needed objective according to a number

1. Subject matter major classification. Initially IPPES will provide objectives in and grammar, (c) science, (d) social studies, and (e) writing skills and written left to right) indicate subject matter:

    (a) 00XXXXXXXX = mathematics
    (b) 01XXXXXXXX = reading
    (c) 02XXXXXXXX = science
    (d) 03XXXXXXXX = social studies
    (e) 04XXXXXXXX = writing

2. Grade Level. The grade level at which an objective is normally or traditionall into the third and fourth digits of the code number. The first issue of the cat through grade six according to the following code:

    (a) XX00XXXXXX = kindergarten
    (b) XX01XXXXXX = first grade
    (c) XX02XXXXXX = second grade
    (d) XX03XXXXXX = third grade
    (e) XX04XXXXXX = fourth grade
    (f) XX05XXXXXX = fifth grade
    (g) XX06XXXXXX - sixth grade

3. Topic of Instructional Unit: The fifth, sixth, and seventh digits indicate the the objective. Each subject matter major classification may be divided into one The three digit numerals assigned to topics specific to this catalog are found o the body of the catalog all objectives associated with a topic are grouped withi and are associated with a seven digit number.

ITEM CODE NUMBERS

es Bank is coded with a ten digit numeral. The system chosen makes it easy for any needed objective according to a number of factors:

itially IPPES will provide objectives in five areas: (a) mathematics, (b) reading dies, and (e) writing skills and written expression. The first two digits (from

es

n objective is normally or traditionally introduced into the curriculum is coded code number. The first issue of the catalogs covers the grade span from kindergarten wing code:

, sixth, and seventh digits indicate the topic of the instructional unit covered by or classification may be divided into one thousand topics within each grade level. pics specific to this catalog are found on the following Topic Summary Sheet. Within associated with a topic are grouped within grade levels. Topic headings are given umber.

4. Objective Within Topic. A maximum of one thousand objectives may be grouped unde
eighth, ninth, and tenth digits of the code number indicate the objective within t

SPECIFIC EXAMPLES OF CODING

1. Science

0200060007 KNOW THE PARTS OF A CHICKEN EGG. (Seventh objective within topic)

- Topic: BIRDS
- Kindergarten Level
- Science

2. Reading

0102025001 SELECTS MAIN IDEA OF A PARAGRAPH. (First objective within topic)

- Topic: READING COMPREHENSION
- Second Grade Level
- Reading

3. Social Studies

0305295002 NAME THE MAIN CAUSES OF THE FRENCH AND INDIAN WAR. (Second objective

- Topic: U.S. FRENCH AND INDIAN WAR.
- Fifth Grade Level
- Social Studies

um of one thousand objectives may be grouped under one Instructional Unit Topic. The of the code number indicate the objective within the topic.

SPECIFIC EXAMPLES OF CODING

CHICKEN EGG. (Seventh objective within topic)

F A PARAGRAPH. (First objective within topic)

OMPREHENSION

S OF THE FRENCH AND INDIAN WAR. (Second objective within topic)

CH AND INDIAN WAR.

SCIENCE TOPIC SUMMARY SHEET
Grades K-6

CODE	TOPIC	CODE
005	Adaptation (animals)	180
010	Adaptation (behavior)	185
015	Adaptation (defense)	190
020	Adaptation (food)	195
025	Adaptation (habitat)	200
030	Adaptation (man)	205
035	Adaptation (plants)	210
040	Adaptation (plants and animals)	215
045	Air	220
050	Amphibians	225
055	Animals	230
060	Birds	235
065	Cells	240
070	Classification	245
075	Classify (animals)	250
080	Classify by five senses	255
085	Classify by kind, form, and properties	260
090	Classify (matter)	265
095	Classify (plants)	270
100	Classify (plant and animal)	275
105	Classify (plant and animal cells)	280
110	Cloth	285
115	Ecology	290
120	Electricity	295
125	Energy Transformation	300
130	Energy Transformation (air)	305
135	Energy Transformation (atoms)	310
140	Energy Transformation (burning candle)	315
145	Energy Transformation (carbon dioxide)	320
150	Energy Transformation (chemical)	325
155	Energy Transformation (combustion)	330
160	Energy Transformation (compounds)	335
165	Energy Transformation (compounds & mixtures)	340
170	Energy Transformation (condensation)	345
175	Energy Transformation (copper oxide)	350

SCIENCE TOPIC SUMMARY SHEET
Grades K-6

CODE	TOPIC
180	Energy Transformation (decomposition)
185	Energy Transformation (electric)
190	Energy Transformation (elements)
195	Energy Transformation (evaporation)
200	Energy Transformation (food)
205	Energy Transformation (forms)
210	Energy Transformation (heat)
215	Energy Transformation (internal combustion)
220	Energy Transformation (kinetic)
225	Energy Transformation (light & sound)
230	Energy Transformation (liquid)
235	Energy Transformation (mass)
240	Energy Transformation (mixture)
245	Energy Transformation (molecular)
250	Energy Transformation (nuclear)
255	Energy Transformation (oxidation)
260	Energy Transformation (oxygen)
265	Energy Transformation (pressure)
270	Energy Transformation (solar)
275	Energy Transformation (substance)
280	Energy Transformation (volume)
285	Energy Transformation (water)
290	Erosion
295	Fish
300	Force and Motion
305	Fuels
310	Genetics
315	Geology
320	Human Body (behavior)
325	Human Body (circulatory)
330	Human Body (defense)
335	Human Body (diet)
340	Human Body (digestive)
345	Human Body (disease)
350	Human Body (ear)

SCIENCE TOPIC SUMMARY SHEET (continued)

CODE	TOPIC	CODE
355	Human Body (exercise)	530
360	Human Body (eye)	535
365	Human Body (growth)	540
370	Human Body (health conditions)	545
375	Human Body (health & safety)	550
380	Human Body (life activities)	555
385	Human Body (muscular)	560
390	Human Body (nervous)	565
395	Human Body (nose)	570
400	Human Body (posture)	575
405	Human Body (reflex)	580
410	Human Body (respiratory)	585
415	Human Body (skeletal)	590
420	Human Body (skin, hair, teeth, nails)	595
425	Human Body (systems)	600
430	Human Body (temperature)	605
435	Human Body (tongue)	
440	Human Body (water)	610
445	Insects	615
450	Interdependence	620
455	Light	625
460	Machines	630
465	Machines (complex)	635
470	Machines (simple)	640
475	Mammals	645
480	Magnets	650
485	Mealworms	655
490	Metals	660
495	Microorganisms	665
500	Microscope technique	670
505	Mollusks	675
510	Plants (adaptation)	680
515	Plants (bacteria)	685
520	Plants (bacteria & mold)	690
525	Plants (capillary action)	695
		700

nails)

CODE	TOPIC
530	Plants (fertilization)
535	Plants (food chains)
540	Plants (gases)
545	Plants (growth)
550	Plants (hybrids)
555	Plants (molds)
560	Plants (needs)
565	Plants (nongreen)
570	Plants (parts)
575	Plants (roots)
580	Plants (seeds)
585	Plants (trees)
590	Plants (water)
595	Pollution (water)
600	Pollution (water & air)
605	Relative positions of stationary & moving objects)
610	Reproduction
615	Reptiles (extinct)
620	Scientific Method
625	Soil
630	Solar system
635	Solar System (stars)
640	Sound
645	Systems (Interactions)
650	Systems & subsystems
655	Universe
660	Water
665	Weather
670	Weather (clouds)
675	Weather (fronts)
680	Weather (precipitation)
685	Weather (prediction)
690	Weather (recording)
695	Weather (storms)
700	Weather (temperature)

0204005	ADAPTATION (ANIMALS)
0204005001	KNOW HOW THE EMBRYONIC STRUCTURES ARE A SPECIAL ADAPTA
0204005003	GIVEN DESCRIPTION OR PICTURE OF THE COLORING OF ANIMAL AND AN WOULD SURVIVE BY BLENDING WITH ITS HABITAT.
0204005004	TELL HOW BODY COVERINGS HELP ANIMALS TO ADAPT TO CERTAIN CLIMAT
0204005005	MATCH ILLUSTRATIONS OF FOLLOWING ANIMAL STRUCTURES WITH TASK F FEET, HOOFS, TOES, WINGS, FINS.
0204005006	MATCH MOUTH ADAPTATIONS TO KINDS OF FOOD TO BE GATHERED BY AN
0204005007	MATCH BREATHING STRUCTURE (LUNGS OR GILLS) OF COMMON ANIMAL
0204005008	MATCH DEFINITIONS WITH FOLLOWING TERMS BIRTH, DEATH, SURVIVE
0205005	ADAPTATION (ANIMALS)
0205005001	KNOW THAT GROWTH OF ORGANISMS FROM EGG TO ADULT PROVIDES MANY EX
0205005002	KNOW THAT THE ADAPTATIONS OF AN ANIMAL TO ITS ENVIRON TO THE FUNCTIONS SERVED.
0205005003	EXPLAIN HOW MAMMALS ARE BETTER ADAPTED FOR THE PROTECT
0205005004	INFER THAT THE ENVIRONMENT OF PAST ANIMALS WAS DIFFERENT FROM TH FOUND.
0205005005	INFER SOME OF THE STRUCTURAL ADAPTATIONS OF EARLY LIFE.
0205005006	DEVELOP A SEQUENTIAL PATTERN ON A CHART FOR THE APPEARA

RUCTURES ARE A SPECIAL ADAPTATION TO ENVIRONMENT.

URE OF THE COLORING OF ANIMAL AND ANIMAL'S HABITAT, EXPLAIN WHETHER OR NOT ANIMAL
WITH ITS HABITAT.

ELP ANIMALS TO ADAPT TO CERTAIN CLIMATES.

LLOWING ANIMAL STRUCTURES WITH TASK FOR WHICH THEY ARE BEST SUITED CLAWS, WEBBED
FINS.

O KINDS OF FOOD TO BE GATHERED BY AN ANIMAL.

(LUNGS OR GILLS) OF COMMON ANIMAL TO HABITAT FOR WHICH IT IS BEST SUITED.

LLOWING TERMS BIRTH, DEATH, SURVIVE, ADAPT, AND EXTINCT.

ISMS FROM EGG TO ADULT PROVIDES MANY EXAMPLES OF ADAPTIVE CHANGE AND DEVELOPMENT.

OF AN ANIMAL TO ITS ENVIRONMENT CAN BE UNDERSTOOD BY RELATING BONE STRUCTURE

ETTER ADAPTED FOR THE PROTECTION AND CARE OF THEIR YOUNG.

T OF PAST ANIMALS WAS DIFFERENT FROM THE PRESENT ENVIRONMENT IN WHICH THEIR FOSSILS ARE

RAL ADAPTATIONS OF EARLY LIFE.

ERN ON A CHART FOR THE APPEARANCE OF THE DIFFERENT FORMS OF LIFE.

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0204010          ADAPTATION (BEHAVIOR)

0204010001       KNOW THAT BEHAVIOR MAY BE INBORN OR LEARNED.


0204010002       KNOW THAT ALL ORGANISMS HAVE INBORN BEHAVIOR THAT ADAPTS THEM TO THE

0204010003       DEMONSTRATE HOW ORGANISMS BECAUSE OF THEIR INBORN        BEHAVIOR AD



0206010          ADAPTATION (BEHAVIOR)

0206010001       KNOW THAT A LIVING THING IS THE PRODUCT OF ITS HEREDITY  AND ENVIRON


0206010002       KNOW THAT BEHAVIOR MAY BE INBORN AND INVOLUNTARY.


0206010003       KNOW THAT RESPONSES TO STIMULI MAY BE SIMPLE OR COMPLEX.


0206010004       KNOW THAT BEHAVIOR CONSISTS OF RESPONSES TO CHANGES      (STIMULI) I


0206010005       KNOW THAT A RESPONSE MAY BE CHANGED BY SUBSTITUTING A    NEW STIMULU
                 STIMULUS.

0206010006       KNOW THAT HABITS AND LEARNING RESULT FROM INTERACTION    OF INHERITE


0206010007       THE CHILD WILL DEMONSTRATE A CONDITIONED REFLEX BY       CONDITIONIN
                 LIGHT, WHEN FED) UNTIL THE FISH RESPONDS WITHOUT FOOD.
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R LEARNED.

N BEHAVIOR THAT ADAPTS THEM TO THEIR ENVIRONMENT.

OF THEIR INBORN BEHAVIOR ADAPT TO VARIOUS ENVIRONMENTS.

ODUCT OF ITS HEREDITY AND ENVIRONMENT.

ND INVOLUNTARY.

BE SIMPLE OR COMPLEX.

PONSES TO CHANGES (STIMULI) IN THE ENVIRONMENT.

D BY SUBSTITUTING A NEW STIMULUS AND ASSOCIATING IT WITH THE ORIGINAL

LT FROM INTERACTION OF INHERITED STRUCTURES WITH STIMULI.

TIONED REFLEX BY CONDITIONING A FISH TO RESPOND TO A STIMULUS (SUCH AS A
SPONDS WITHOUT FOOD.

0206015	ADAPTATION (DEFENSE)
0206015001	KNOW THAT ORGANISMS ARE STRUCTURALLY ADAPTED FOR DEFENSE AGAI

STRUCTURALLY ADAPTED FOR DEFENSE AGAINST HOSTILE MICROORGANISMS IN THEIR ENVIRONMENT.

0204020	ADAPTATION (FOOD)
0204020001	KNOW THAT LIVING THINGS NEED A FOOD SUPPLY.
0204020002	KNOW THAT AN ORGANISM NEEDS FOOD FOR GROWTH.

0204025	ADAPTATION (HABITAT)	
0204025001	KNOW THAT A LIVING THING REPRODUCES ITSELF AND DEVELOPS	I
0204025002	KNOW THAT DIFFERENT ANIMALS ARE ADAPTED TO DIFFERENT	S
0204025003	KNOW THAT LIVING THINGS ARE DEPENDENT ON A PARTICULAR	E
0204025004	KNOW WHY THE LIFE CYCLE OF AN ANIMAL IS ADAPTED TO THE	S
0204025005	KNOW THAT A LIVING THING IS DEPENDENT ON ALL THE ENVIRONMENT.	C
0204025006	KNOW THAT THE ENVIRONMENT OF A LIVING THING INCLUDES ALL DIFFERENT PLANTS HAVE ADOPTED TO DIFFERENT ENVIRONMENTS.	SU
0204025007	TELL WHAT MOST ORGANISMS NEED TO STAY ALIVE.	
0204025008	KNOW HOW LIVING THINGS CAPTURE MATTER FROM THE	EN
0204025009	KNOW HOW A LIVING THING MAY BE ADAPTED TO DIFFERENT	EN
0204025010	GIVE THE DEFINITION OF HABITAT.	
0204025011	IDENTIFY DEFINITION OF HABITAT. MATCH ORGANISMS WITH THEY ARE BEST ADAPTED.	PI
0204025012	SHOW UNDERSTANDING OF ADAPTATION TO ENVIRONMENT BY DIFFERENT ENVIRONMENTS.	GI
0205025	ADAPTATION (HABITAT)	
0205025001	KNOW THAT THERE IS AN INTERCHANGE OF MATTER AND ENERGY	BE

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REPRODUCES ITSELF AND DEVELOPS  IN A GIVEN ENVIRONMENT.

LS ARE ADAPTED TO DIFFERENT     SPECIAL ENVIRONMENTS.

RE DEPENDENT ON A PARTICULAR    ENVIRONMENT.

F AN ANIMAL IS ADAPTED TO THE   SPECIAL ENVIRONMENT, OR HABITAT.

IS DEPENDENT ON ALL THE         CONDITIONS AND ALL OTHER LIVING THINGS IN ITS

 OF A LIVING THING INCLUDES ALL SURROUNDING CONDITIONS THAT AFFECT ITS GROWTH.
PTED TO DIFFERENT ENVIRONMENTS.

NEED TO STAY ALIVE.

PTURE MATTER FROM THE           ENVIRONMENT AND RETURN IT TO THE ENVIRONMENT.

AY BE ADAPTED TO DIFFERENT      ENVIRONMENTS.

BITAT.

BITAT.  MATCH ORGANISMS WITH    PICTURES, DESCRIPTIONS, OR NAMES OF HABITATS TO WHICH

PTATION TO ENVIRONMENT BY       GIVING TWO EXAMPLES OF LIVING THINGS NEEDING SPECIAL AND



ERCHANGE OF MATTER AND ENERGY   BETWEEN THE ORGANISM AND ITS ENVIRONMENT.
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0205025002	KNOW THAT MOST LIVING THINGS DEPEND ON A CONTINUOUS SUPPLY O
0205025003	KNOW THAT EACH KIND OF ORGANISM IS ADAPTED TO A SPECIAL ENVIRONM
0205025004	KNOW THAT THE ENVIRONMENT TO WHICH AN ORGANISM IS ADAPTED
0205025005	KNOW THAT MAN, LIKE ALL OTHER LIVING THINGS, IS DEPENDEN LIVING THINGS IN IT.
0205025006	KNOW THAT AN ORGANISM MUST HAVE AN ENVIRONMENT THAT SUPPLIES
0205025007	INFER THAT ENVRIONMENTAL CONDITIONS AFFECT THE DEVELOPM
0205025008	TESTS OF FOODS GIVE INSIGHT INTO THE MATTER LIVING THINGS T
0205025009	KNOW THAT A LIVING THING IS THE PRODUCT OF ITS HEREDITY AND ENVI
0205025010	DEVELOP UNDERSTANDING OF THE IMPORTANCE OF ADAPTATIONS OF STRUC
0205025011	KNOW THAT STRUCTURAL ADAPTATIONS TO ENVIRONMENTS OF THE PAST OCCU
0205025012	KNOW THAT GRADUAL CHANGES OF STRUCTURE IN WATER ANIMALS OF THE A
0205025013	COMPARE ENVIRONMENTAL CONDITIONS IN WATER AND ON LAND AND RELA
0205025014	COMPARE ENVIRONMENTAL CONDITIONS IN WATER AND ON LAND AND RELAT
0205025015	ANALYZE THE RELATIONSHIP BETWEEN ENVIRONMENT AND LIVING THINGS.

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 A CONTINUOUS        SUPPLY OF OXYGEN.

PTED TO A SPECIAL   ENVIRONMENT.

ORGANISM IS         ADAPTED SUPPLIES ALL THE ORGANISM'S NEEDS.

HINGS, IS           DEPENDENT ON HIS ENVIRONMENT---ON ALL THE MATTER AND

IRONMENT THAT       SUPPLIES ITS NEEDS IN ADEQUATE AMOUNTS.

FECT THE            DEVELOPMENT OF AN ORGANISM.

ATTER LIVING        THINGS TAKE FROM THEIR ENVIRONMENT.

T OF ITS HEREDITY   AND ENVIRONMENT.

E OF ADAPTATIONS    OF STRUCTURE TO SUCCESSFUL SURVIVAL IN AN ENVIRONMENT.

VIRONMENTS OF THE   PAST OCCURRED SLOWLY.

 IN WATER ANIMALS   OF THE ANCIENT SEAS ADAPTED THEM FOR LAND LIVING.

ATER AND ON LAND    AND RELATE THESE ENVIRONMENTS TO DEVELOPING LIFE FORMS.

ATER AND ON LAND    AND RELATE THESE ENVIRONMENTS TO DEVELOPING LIFE FORMS.

RONMENT AND LIVING  THINGS.
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0205025016      PREDICT WHICH OF SEVERAL EXPERIMENTS IS BEST DESIGNED TO ANSWER
                (TEMPERATURE, AIR SUPPLY, LIGHT, WATER, FOOD) ON         BEHAVIO



0206025         ADAPTATION (HABITAT)

0206025001      KNOW THAT LIVING THINGS ARE ADAPTED BY STRUCTURE AND     FUNCTIO

0206025002      KNOW THAT LIVING ORGANISMS HAVE STRUCTURES THAT ENABLE   THEM TO

0206025003      KNOW THAT AN ORGANISM'S SPECIALIZED STRUCTURES ENABLE IT TO INTE

0206025004      KNOW THAT HEREDITY AND ENVIRONMENT WORK TOGETHER.

0206025005      KNOW THAT THE ENVIRONMENT FOR GROWTH OF VIRUSES DIFFERS  FROM TH
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TS IS BEST DESIGNED TO ANSWER GIVEN QUESTION ABOUT EFFECT OF VARIABLES
ATER, FOOD) ON BEHAVIOR OF GROWTH OF ORGANISM IN ITS ENVIRONMENT.

D BY STRUCTURE AND FUNCTION TO THEIR ENVIRONMENT.

RUCTURES THAT ENABLE THEM TO RESPOND TO STIMULI IN THEIR ENVIRONMENT.

D STRUCTURES ENABLE IT TO INTERACT WITH THE ENVIRONMENT.

WORK TOGETHER.

TH OF VIRUSES DIFFERS FROM THAT OF OTHER LIVING THINGS.

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0204030      ADAPTATION (MAN)

0204030001   KNOW HOW KNOWLEDGE OF CONCEPTS, WHETHER OBTAINED BY      TRIAL A  T
             TO KEEPING MAN ALIVE.

0204030002   EXPLAIN HOW, BY USING HIS BRAIN TO MODIFY THE            ENVIRON  A
             WHICH HE IS NOT STRUCTURALLY ADAPTED.

0204030003   ENGAGE IN A PROJECT AND DEMONSTRATE, USING A VARIETY OF  MEDIA,   N
             SCIENCE CONCEPTS, HAS BEEN ALTERED BY HUMAN ACTIVITIES.           L


0205030      ADAPTATION (MAN)

0205030001   WRITES A PARAGRAPH DESCRIBING THE DETAILS OF PROBLEMS    MAN WIL  G
             HEAT, COLD).


0206030      ADAPTATION (MAN)

0206030001   KNOW THAT CHEMICAL TECHNOLOGY HAS PROVIDED MANY          SUBSTANC Y

0206030002   KNOW THAT MAN CHANGES THE ENVIRONMENT OF VIRUSES IN      SEEKING  V

0206030003   KNOW THAT MAN ATTEMPTS TO MANAGE HIS ENVIRONMENT.                 N

0206030004   INFER THAT THE CONQUEST OF DISEASE IS A COOPERATIVE      EFFORT.  I

0206030005   KNOW THAT MODERN TECHNOLOGY USES CONCEPTS OF SCIENCE TO  FREE THE L

0206030006   KNOW THAT MAN CHANGES THE ENVIRONMENT OF MICROORGANISMS  AS HE SE V
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, WHETHER OBTAINED BY TRIAL AND ERROR OR BY INVESTIGATION, HAS BEEN ESSENTIAL

N TO MODIFY THE ENVIRONMENT, MAN IS ABLE TO LIVE IN ENVIRONMENTS TO
DAPTED.

TRATE, USING A VARIETY OF MEDIA, HOW PHYSICAL ENVIRONMENT IN AT LEAST TWO AREAS OF
ERED BY HUMAN ACTIVITIES.

THE DETAILS OF PROBLEMS MAN WILL FIND IN A NEW ENVIRONMENT (OXYGEN, ATMOSPHERE,

HAS PROVIDED MANY SUBSTANCES WITH USEFUL PROPERTIES.

RONMENT OF VIRUSES IN SEEKING TO CONQUER DISEASE.

GE HIS ENVIRONMENT.

EASE IS A COOPERATIVE EFFORT.

ES CONCEPTS OF SCIENCE TO FREE THE ENVIRONMENT OF HARMFUL MICROORGANISMS.

RONMENT OF MICROORGANISMS AS HE SEEKS TO CONQUER DISEASE.

0204035	ADAPTATION (PLANTS)
0204035001	MATCH DESCRIPTIONS OR DRAWINGS OF SEEDS WITH MEANS BY WHICH PLANT TO ANOTHER PLANT.
0205035	ADAPTATION (PLANTS)
0205035001	INFER THAT CELL WALLS SUPPORT AND STIFFEN THE STRUCTURE OF PLA
0205035002	KNOW THAT AS PRIMITIVE PLANTS DEVELOPED STIFFER CELL WALLS,

S OF SEEDS WITH MEANS BY WHICH THEY TRAVEL (WIND, WATER, OR ANIMALS) FROM PARENT

AND STIFFEN THE STRUCTURE OF PLANTS.

DEVELOPED STIFFER CELL WALLS, THEY GREW TALLER.

0205040	ADAPTATION (PLANTS AND ANIMALS)
0205040001	KNOW THAT LIVING THINGS HAVE CHANGED OVER THE AGES,
0205040002	KNOW THAT LIVING THINGS HAVE BEEN CHANGING SINCE LIFE FIRS
0205040003	DEVELOP A SEQUENTIAL PATTERN FOR THE APPEARANCE OF THE DIFF

E CHANGED OVER THE AGES.

E BEEN CHANGING SINCE LIFE FIRST BEGAN ON EARTH OVER TWO BILLION YEARS AGO.

N FOR THE APPEARANCE OF THE DIFFERENT FORMS OF LIFE.

0204045	AIR
0204045001	KNOW THAT NITROGEN IS THE MOST PLENTIFUL GAS IN THE AIR.
0204045002	KNOW THAT ABOUT ONE FIFTH OF AIR IS OXYGEN.
0204045003	KNOW WARM AIR IS FORCED UPWARD BY COOLER AIR SURROUNDING IT.
0204045004	KNOW HOW AIR CAN BE COLLECTED AND CLEANED BY THE DISPLACEMENT

HE MOST PLENTIFUL GAS IN THE AIR.

TH OF AIR IS OXYGEN.

UPWARD BY COOLER AIR SURROUNDING IT.

LECTED AND CLEANED BY THE DISPLACEMENT METHOD.

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0200050         AMPHIBIANS

0200050001      KNOW THAT A TURTLE BEGAN ITS LIFE AS AN EGG, WHICH      HATC


0200050002      DESCRIBE HOW A TURTLE BEGAN ITS LIFE AS AN EGG, WHICH   HATC


0200050003      KNOW THE CHARACTERISTICS AND LIFE ACTIVITIES OF AQUATIC  AND 


0200050004      DESCRIBE THE CHARACTERISTICS AND LIFE ACTIVITIES OF     AQUAT
                EAT.


0205050         AMPHIBIANS

0205050001      OBSERVE AND STUDY THE LIFE CYCLE OF AN AMPHIBIAN.


0205050002      DESCRIBE GROWTH AND DEVELOPMENT OF FROG.  OBSERVE EGGS   IN AC
                GROW TO FROGS.

0205050003      DESCRIBE FROG BEGINNING LIFE AS SINGLE CELL MULTIPLIES   BY CE
                BREATHING FROG.
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IFE AS AN EGG, WHICH HATCHED INTO A SMALL TURTLE AND THEN GREW INTO AN ADULT.

S LIFE AS AN EGG, WHICH HATCHED INTO A SMALL TURTLE AND THEN GREW INTO AN ADULT.

IFE ACTIVITIES OF AQUATIC AND LAND TURTLES.

ND LIFE ACTIVITIES OF AQUATIC AND LAND TURTLES, BY OBSERVING THEM MOVE AND

LE OF AN AMPHIBIAN.

T OF FROG. OBSERVE EGGS IN ACQUARIUM AS THEY DEVELOP AND HATCH INTO TADPOLES AND

S SINGLE CELL MULTIPLIES BY CELL DIVISION, FORMS STRUCTURES, DEVELOPS INTO AIR

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0201055         ANIMALS

0201055001      IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS   HOW THEY  EAT.

0201055002      IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS   HOW THEY  GROW

0201055003      IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS   HOW THEY  CHAN

0201055004      IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS   HOW THEY  MOVE

0201055005      IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS   HOW THEY  REPR

0201055006      KEEP AN ACCURATE RECORD OF GROWTH CHANGES OF AN ANIMAL   YOU

0201055007      KNOW THAT ANIMALS MAY BE PRESERVED IN ICE FOR LONG       PERI

0201055008      DEMONSTRATE THAT ANIMALS MAY BE PRESERVED IN ICE, BY     PLAC
                THEN ADDING WATER TO ENCLOSE THE DEAD INSECT WITHIN ICE.

0201055009      DESCRIBE THAT ANIMALS MAY BE PRESERVED IN ICE FOR LONG   PERI
                REMAIN OVER A LONG PERIOD OF TIME.


0203055         ANIMALS

0203055001      FILL IN OUTLINE.  SHOW FIVE CLASSES OF ANIMALS AND 2-3   CHAR

0203055002      PLACE CLASSES OF ANIMALS IN PROPER ENVIRONMENT.

0203055003      CHOOSE FRESH-WATER ANIMAL.  TELL HOW IT ADAPTED TO ITS   ENVI

0203055004      DESCRIBE HOW ONE SEA ANIMAL IS ADAPTED TO LIFE IN SEA.
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PERTIES OF ANIMALS HOW THEY EAT.

PERTIES OF ANIMALS HOW THEY GROW.

PERTIES OF ANIMALS HOW THEY CHANGE.

PERTIES OF ANIMALS HOW THEY MOVE BY THEMSELVES.

PERTIES OF ANIMALS HOW THEY REPRODUCE.

GROWTH CHANGES OF AN ANIMAL YOU HAVE OBSERVED.

RESERVED IN ICE FOR LONG PERIODS.

AY BE PRESERVED IN ICE, BY PLACING A DEAD INSECT IN WATER, LETTING IT FREEZE,
SE THE DEAD INSECT WITHIN ICE.

BE PRESERVED IN ICE FOR LONG PERIODS, BY OBSERVING THAT THE INSECT FROZEN IN ICE WILL
OF TIME.

E CLASSES OF ANIMALS AND 2-3 CHARACTERISTICS OF EACH.

IN PROPER ENVIRONMENT.

. TELL HOW IT ADAPTED TO ITS ENVIRONMENT.

L IS ADAPTED TO LIFE IN SEA.

0203055005	WRITE STORY ABOUT ANIMAL THAT LIVES IN SEA. DESCRIBE ITS ENV
0203055006	DESCRIBE THAT BACKBONES OF DIFFERENT ANIMALS, SUCH AS CHICKEN AND THAT EACH BONE HAS A HOLE IN THE MIDDLE.
0203055007	NAME THE BONES THAT MAKE UP A BACKBONE AS VERTEBRAE, ANIMALS WITHOUT BACKBONES AS INVERTEBRATES.
0203055008	KNOW THAT BACKBONES OF DIFFERENT ANIMALS ARE MADE OF BONES T THE MIDDLE.
0203055009	KNOW THE BONES THAT MAKE UP A BACKBONE AS VERTEBRAE, ANIMALS WITHOUT BACKBONES AS INVERTEBRATES.
0203055010	PREPARE TWO-PART ANIMAL BOOKLET OF VERTEBRATES AND INVERTE
0203055011	GIVE CHARACTERISTICS OF VERTEBRATES.
0204055002	KNOW HOW ANIMALS HAVE BEEN ADAPTED TO MEET THE NEEDS OF THEIR E
0205055	ANIMALS .
0205055001	IDENTIFY BALL ON THE END OF THIGH BONE AND SOCKET OF HIP BONE.
0205055002	RECONSTRUCT THE LEG BONES OF A COOKED CHICKEN AND LABEL THE BALL
0205055003	ORDER BONES OF THE LEG OF COOKED CHICKEN WHEN GIVEN THEM SEPARATE
0205055004	CONTROL THE ENVIRONMENT AND DIET OF AN ANIMAL AND OBSERVE THE NON-CONTROLLED ANIMAL.
0205055005	CONSTRUCT SMALL SYSTEM FOR OBSERVING SEALED-IN ORGANISM. SEAL AQU

VES IN SEA. DESCRIBE ITS ENVIRONMENT. DRAW PICTURES TO ILLUSTRATE STORY.

RENT ANIMALS, SUCH AS CHICKEN AND FISH, ARE MADE OF BONES THAT FIT TOGETHER
THE MIDDLE.

CKBONE AS VERTEBRAE, ANIMALS WITH BACKBONES AS VERTEBRATES, AND ANIMALS
ES.

ANIMALS ARE MADE OF BONES THAT FIT TOGETHER AND THAT EACH BONE HAS A HOLE I

CKBONE AS VERTEBRAE, ANIMALS WITH BACKBONES AS VERTEBRATES, AND ANIMALS
ES.

OF VERTEBRATES AND INVERTEBRATES.

TES.

ED TO MEET THE NEEDS OF THEIR ENVIRONMENT.

H BONE AND SOCKET OF HIP BONE.

OOKED CHICKEN AND LABEL THE BALL AND SOCKET JOINTS CORRECTLY.

CHICKEN WHEN GIVEN THEM SEPARATED.

OF AN ANIMAL AND OBSERVE THE CHANGE IN THE CONTROLLED ANIMAL WITH THAT OF

VING SEALED-IN ORGANISM. SEAL AQUATIC PLANTS, SAND, AQUARIUM WATER IN JAR.

0200060	BIRDS
0200060001	KNOW THAT A CHICKEN IS ONE KIND OF BIRD AND THAT ALL BIRDS A AND ARE COVERED WITH FEATHERS.
0200060002	DESCRIBE THAT A CHICKEN IS ONE KIND OF BIRD AND THAT ALL BIRDS A EGGS AND THEY ARE COVERED WITH FEATHERS.
0200060003	KNOW THAT CHICKEN EGGS COME FROM THE HEN OR MOTHER CHICKEN INTO ADULTS.
0200060004	DESCRIBE THAT CHICKEN EGGS COME FROM THE HEN OR MOTHER CHICKEN INTO ADULTS.
0200060005	IDENTIFY PARTS OF THE EGG AS SHELL, MEMBRANE, WHITE AND YOLK.
0200060006	DESCRIBE A CHICKEN EGG, BY BREAKING ONE OPEN AND OBSERVI
0200060007	KNOW THE PARTS OF A CHICKEN EGG.
0204060	BIRDS
0204060001	DESCRIBE A CHICKEN EGG, BY OBSERVING WITH A HAND LENS THE OUT
0204060002	IDENTIFY PARTS OF THE CHICKEN EGG AS SHELL, MEMBRANE, YOLK, A WHEN IT JOINS WITH SPERM.
0204060003	KNOW WHY IN BOTH STRUCTURE AND BEHAVIOR (MIGRATION) THE DUCK IS
0204060004	TELL OR ILLUSTRATE (BY DRAWING, ETC.) HOW A DUCK IS ADAPTED THE EGG IS ADAPTED TO THE LIFE OF THE EMBRYO.

ND OF BIRD AND THAT ALL BIRDS ARE ALIKE IN TWO WAYS. ALL LAY HARD-SHELLED EGGS
.

F KIND OF BIRD AND THAT ALL BIRDS ARE ALIKE IN TWO WAYS. THEY ALL LAY HARD-SHELLED
H FEATHERS.

ROM THE HEN OR MOTHER CHICKEN, AND THAT EGGS HATCH INTO BABY CHICKS WHICH GRO

ME FROM THE HEN OR MOTHER CHICKEN, AND THAT EGGS HATCH INTO BABY CHICKS WHICH GRO

SHELL, MEMBRANE, WHITE AND YOLK.

EAKING ONE OPEN AND OBSERVING IT.

GG.

SERVING WITH A HAND LENS THE OUTSIDE AND INSIDE OF THE EGG.

EGG AS SHELL, MEMBRANE, YOLK, AND WHITE SPECK ON THE YOLK, WHICH BECOMES EMBRYO

D BEHAVIOR (MIGRATION) THE DUCK IS ADAPTED TO ITS ENVIRONMENT.

G, ETC.) HOW A DUCK IS ADAPTED FOR FLIGHT, HATCHING YOUNG FROM EGGS, AND HOW
E OF THE EMBRYO.

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0204065        CELLS

0204065001     KNOW THAT LIVING THINGS ARE MADE OF CELLS.  THEY HAVE A  COMPLEX S


0204065002     KNOW HOW LIVING THINGS GROW BY CELL DIVISION.


0204065003     KNOW THAT THE STRUCTURE OF CELLS VARIES ACCORDING TO THE FUNCTIONS


0204065004     DESCRIBE AS MANY DIFFERENCES AS YOU CAN WHEN OBSERVING   PLANT AND


0204065005     IDENTIFY FROM LIST WHICH NAMES CELL STRUCTURES, OR FROM  PICTURES
               TRAITS WHICH ARE PRESENT ONLY IN PLANT CELLS, ONLY IN    ANIMAL CEL

0204065006     GIVEN SIMPLE SLIDE AND MICROSCOPE, CLASSIFY OBJECTS ON   SLIDE AS
               BUBBLES, DIRT, CRYSTALS).

0204065007     ESTABLISH A RELATIONSHIP BETWEEN THE MOLD ON BREAD TO    THE ACTIO
               CELLS.



0205065        CELLS

0205065001     DEFINE IN WRITING AND ORALLY WHAT THE WORD CELL MEANS.


0205065002     CONSTRUCT MICROSCOPE SLIDE PREPARATION.  PLACE SCRAPING  OF INSIDE
               ADD COVER SLIP.

0205065003     DESCRIBE SHAPE OF CELLS.


0205065004     IDENTIFY NUCLEUS IN CELL.


0205065005     CONSTRUCT MODEL OF A CELL.  USE MIXTURE OF WATER, CLEAR  GELATIN, S
               WILL GARDEN INSIDE SEALED PLASTIC BAG.

0205065006     IDENTIFY PARTS OF MODEL SIMILAR TO CELL, AS GELATIN FOR  CYTOPLASM
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THEY HAVE A COMPLEX STRUCTURE.

ON.

CORDING TO THE FUNCTIONS OF THE CELLS IN THE ORGANISM.

EN OBSERVING PLANT AND ANIMAL CELLS UNDER MICROSCOPE.

URES, OR FROM PICTURES OR SLIDES OF LIVING TISSUE, THOSE CELLULAR
LS, ONLY IN ANIMAL CELLS, OR IN BOTH.

Y OBJECTS ON SLIDE AS CELLS OR OBJECTS WHICH ARE NOT CELLS (E.G., AIR

ON BREAD TO THE ACTION OF BACTERIA OF DECAY ON DEAD PLANT AND ANIMAL

CELL MEANS.

PLACE SCRAPING OF INSIDE CHEEK ON DROP OF WATER ON GLASS SLIDE STAIN

F WATER, CLEAR GELATIN, STARCH, COLOGNE, SMALL PIECES OF CLAY GELATIN

AS GELATIN FOR CYTOPLASM PLASTIC BAG FOR MEMBRANE, CLAY FOR NUCLEUS.

0205065007	KNOW THAT CELLS INTERCHANGE MATTER AND ENERGY WITH THE	E
0205065008	INFER, THROUGH INVESTIGATION, THAT A YEAST CELL GETS	E
0205065009	DEMONSTRATE THAT YEAST CELLS INCREASE WITH REPRODUCTION. WITH WATER AND SAME AMOUNT MIXED WITH SUGAR AND WATER.	C F
0205065010	DESCRIBE DIFFERENCE DUE TO GROWTH AND REPRODUCTION OF	Y
0205065011	DEMONSTRATE THAT A CELL MEMBRANE ALLOWS SOME MATERIALS SOLUTION. STARCH TURNS BLUE-BLACK.	T
0205065012	DESCRIBE THAT IODINE SOLUTION PASSES INTO CELL MODEL	S
0205065013	KNOW THAT ENERGY WITHIN A CELL COMES FROM A CYCLE OF MOLECULES (THE CELL ENERGY PROCESS).	B
0205065014	KNOW THAT ENERGY IS A CYCLICAL PROCESS---ALL WITHIN A	T
0205065015	DESCRIBE THE ENERGY CYCLE IN CELLS.	
0205065016	DERIVE INSIGHT INTO DIFFUSION AS A BASIC PROCESS IN ALL	B
0205065017	UNDERSTAND THAT THE CELL MEMBRANE DELIMITS THE CELL AS A	F
0205065018	THROUGH THE CONSTRUCTION OF MODELS, GAIN A BETTER IDEA	O
0205065019	KNOW THAT CELLS ARE SPECIALIZED FOR DIFFFRENT FUNCTIONS.	
0205065020	KNOW THAT CELLS REPROCUCE THEMSELVES.	

MATTER AND ENERGY WITH THE ENVIRONMENT.

N, THAT A YEAST CELL GETS ENERGY FOR GROWTH FROM SUGAR.

S INCREASE WITH REPRODUCTION. COMPARE SMALL AMOUNT OF YEAST CELLS AFTER 3 DAYS MIXED
MIXED WITH SUGAR AND WATER. FILTER BOTH ONTO PAPER.

GROWTH AND REPRODUCTION OF YEAST CELLS IN SUGAR SOLUTION.

BRANE ALLOWS SOME MATERIALS TO PASS THROUGH. USE CELL MODEL PLACE IN IODINE
E-BLACK.

ON PASSES INTO CELL MODEL STARCH DID NOT COME OUT (IODINE NOT TURNED BLUE-BLACK).

ELL COMES FROM A CYCLE OF BREAKING DOWN AND BUILDING HIGH ENERGY CONTAINING
PROCESS).

CAL PROCESS----ALL WITHIN A TINY CELL.

N CELLS.

ON AS A BASIC PROCESS IN ALL BODIES, ESPECIALLY CELLS.

MBRANE DELIMITS THE CELL AS A FUNCTIONING UNIT.

MODELS, GAIN A BETTER IDEA OF CELL STRUCTURE.

LIZED FOR DIFFERENT FUNCTIONS.

THEMSELVES.

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0205065021      KNOW THAT WHEN CELLS DIVIDE, EACH NEW CELL HAS ITS OWN   NUCLEUS.

0205065022      PERCEIVE THAT CELL DIVISION TAKES PLACE BY CONTINUAL     DOUBLING.

0205065023      KNOW THAT A SINGLE-CELLED ORGANISM PERFORMS ALL THE LIFE FUNCTIONS
                COMMUNITY OF INTERDEPENDENT CELLS.

0205065024      BUILD A FOUNDATION FOR UNDERSTANDING ORGANIZATION OF     CELL STRU

0205065025      EXPLAIN THE FUNCTIONS OF EACH TYPE CELL IN THE BODY.

0205065026      VISUALIZE HOW CHROMOSOMES DUPLICATE IN CELL DIVISION.

0205065027      DEMONSTRATE KNOWLEDGE OF ANIMAL CELL REPRODUCTION BY     DRAWING T
                CELL HAS THE SAME NUMBER OF CHROMOSOMES, AND NAMING      SUBSTANCE

0205065028      KNOW THAT GROWTH IN A MANY-CELLED ORGANISM CONSISTS IN   MULTIPLIC

0205065029      DISCOVER THE DISTINCTION BETWEEN CYTOPLASM AND           PROTOPLAS

0205065030      KNOW THAT PROTOPLASM, THE LIVING MATERIAL IN THE CELL,   IS COMPOS
                CRUST AND ATMOSPHERE.

0205065031      KNOW THAT PROTOPLASM CONTAINS COMMON ELEMENTS AND        COMPOUNDS

0205065032      WRITE OR TELL THREE OF THE FIVE KINDS OR COMPOUNDS       FOUND IN

0205065033      SHOW RECOGNITION OF THE WORD PROTOPLASM THROUGH A        MATCHING

0205065034      KNOW THAT THE CELL IS THE UNIT OF STRUCTURE AND          FUNCTION
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H NEW CELL HAS ITS OWN NUCLEUS.

S PLACE BY CONTINUAL DOUBLING.

SM PERFORMS ALL THE LIFE FUNCTIONS WITHIN THE CELL A MANY-CELLED ORGANISM IS A
S.

DING ORGANIZATION OF CELL STRUCTURE FOR CELL FUNCTION WITHIN ORGANISMS.

PE CELL IN THE BODY.

ATE IN CELL DIVISION.

CELL REPRODUCTION BY DRAWING THREE STAGES OF CELL DIVISION STATE EACH NEW
MOSOMES, AND NAMING SUBSTANCES RESPONSIBLE.

D ORGANISM CONSISTS IN MULTIPLICATION AND DIFFERENTIATION OF CELLS.

CYTOPLASM AND PROTOPLASM.

MATERIAL IN THE CELL, IS COMPOSED OF ELEMENTS AND COMPOUNDS IN THE EARTH'S

MMON ELEMENTS AND COMPOUNDS.

KINDS OR COMPOUNDS FOUND IN CELLS.

TOPLASM THROUGH A MATCHING TEST.

F STRUCTURE AND FUNCTION A LIVING THING DEVELOPS FROM A SINGLE CELL.

0205065035 KNOW THAT FOOD SUBSTANCES DIFFUSE THROUGH MEMBRANES.

0205065036 KNOW THAT CELLS WITH DIFFERENT FUNCTIONS APPEAR DIFFEREN

0205065037 SEE THE UNITY (THE BASIC STRUCTURE) IN ALL CELLS AND THE DIVERSIT

0205065038 KNOW THAT CELLS SECRETE NONLIVING MATERIAL.

0205065039 KNOW THAT IN MANY-CELLED ORGANISMS, GROUPS OF CELLS AND TISSUES
SPECIALIZED TO PERFORM THE BODY'S FUNCTIONS.

0205065040 KNOW THAT SIMILAR CELLS WITH SIMILAR FUNCTIONS ARE ORGANIZE

0205065041 KNOW THAT ORGANISMS ARE MADE UP OF CELLS. THE UNIT OF STRUCTUR

0205065042 MAKE DRAWINGS OF ALL THE TYPES OF CELLS IN THE BODY AND LABEL DR

0205065043 KNOW THAT THE SINGLE-CELLED ORGANISMS THAT DEVELOPED IN THE EARL
LATER ERAS ADAPTATION TO THE ENVIRONMENT PRODUCED MORE COMPLEX

USE THROUGH MEMBRANES.

FUNCTICNS APPEAR DIFFERENT IN DETAIL, BUT NOT IN BASIC STRUCTURES.

TURE) IN ALL CELLS AND THE DIVERSITY IN TERMS OF ADAPTATION TO FUNCTION.

ING MATERIAL.

ISMS, GROUPS OF CELLS AND TISSUES ARE ORGANIZED INTO ORGAN SYSTEMS, ALL
Y'S FUNCTIONS.

IMILAR FUNCTIONS ARE ORGANIZED INTO TISSUES.

P OF CELLS. THE UNIT OF STRUCTURE AND FUNCTION IN THE ORGANISM IS THE CELL.

OF CELLS IN THE BODY AND LABEL DRAWINGS.

GANISMS THAT DEVELOPED IN THE EARLY SEAS GAVE RISE TO THE MANY-CELLED ORGANISMS OF
ENVIRONMENT PRODUCED MORE COMPLEX STRUCTURES.

0202070	CLASSIFICATION
0202070001	CLASSIFY GIVEN OBJECTS.
0202070002	DESCRIBE THE PROPERTIES OF A GIVEN OBJECT.
0205070	CLASSIFICATION
0205070001	KNOW THAT OBJECTS AND EVENTS CAN BE GROUPED OR CLASSIFIED.

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0200075         CLASSIFY (ANIMALS)

0200075001      KNOW THAT DIFFERENT ANIMALS CAN BE ORDERED BY           CHARAC
                AND AIR, MOVE, GROW, AND PRODUCE EGGS OR YOUNG.

0200075002      ORDER VARIETY OF DIFFERENT ANIMALS INTO SETS AND SUBSETS ACCORD
                HOW THEY GET FOOD AND AIR, MOVE, GROW, AND PRODUCE EGGS  OR YOU


0201075         CLASSIFY (ANIMALS)

0201075001      LIST BASIC CHARACTERISTIC OF EACH ANIMAL GROUP.

0201075002      CLASSIFY ANIMALS ACCORDING TO HABITATS, SKIN COVERING,   THE WA

0201075003      GIVEN A LIST OF PICTURES OF 30 DIFFERENT ANIMALS         CLASSI


0202075         CLASSIFY (ANIMALS)

0202075001      CLASSIFY FAMILIAR ANIMALS ACCORDING TO WHETHER THEY EAT  MEAT,

0202075002      AFTER STUDYING DIFFERENT CLASSIFICATION SCHEMES, WRITE   AT LEA
                CHARACTERISTICS ARE MOST IMPORTANT IN CLASSIFYING        ANIMAL


0204075         CLASSIFY (ANIMALS)

0204075001      ON BASIS OF DISTINCT CHARACTERISTICS, CLASSIFY COMMON    ANIMAL
                AMPHIBIANS, REPTILES, BIRDS, OR MAMMALS.

0204075002      GIVEN A LIST OF 12 WORDS IN WHICH AR MAMMALS AND BIRDS,  PUT AL
                TO EACH GROUP.

0204075003      KNOW THAT EVERY SPECIES OF ANIMAL HAS A LIFE CYCLE IN    WHICH
                CHANGES IN STRUCTURE FROM EGG TO ADULT) IS REPEATED OVER AND OV
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CAN BE ORDERED BY CHARACTERISTICS AND LIFE ACTIVITIES OF HOW THEY GET FOOD
DUCE EGGS OR YOUNG.

NIMALS INTO SETS AND SUBSETS ACCORDING TO CHARACTERISTICS AND TO LIFE ACTIVITIES OF
OVE, GROW, AND PRODUCE EGGS OR YOUNG.

EACH ANIMAL GROUP.

O HABITATS, SKIN COVERING, THE WAY THE ANIMAL MOVES, AND/OR THE NUMBER OF LEGS.

30 DIFFERENT ANIMALS CLASSIFY THEM IN CORRECT ANIMAL GROUP.

CCORDING TO WHETHER THEY EAT MEAT, PLANTS, OR BOTH.

ASSIFICATION SCHEMES, WRITE AT LEAST ONE PARAGRAPH STATING WHICH ANIMAL
PORTANT IN CLASSIFYING ANIMALS.

TERISTICS, CLASSIFY COMMON ANIMALS AS BEING EITHER WORMS, INSECTS, SHELLFISH, FISH,
, OR MAMMALS.

WHICH AR MAMMALS AND BIRDS, PUT ALL WORDS IN CORRECT GROUP AND ADD AT LEAST 2 WORDS

ANIMAL HAS A LIFE CYCLE IN WHICH THE SAME PATTERN OF DEVELOPMENT (SUCCESSIVE
GG TO ADULT) IS REPEATED OVER AND OVER AGAIN.

0204075004	CHOOSE AN ANIMAL, IDENTIFY ITS STRUCTURE AND BEHAVIOR (INBORN AND
0205075	CLASSIFY (ANIMALS)
0205075001	GIVEN THE CHARACTERISTICS OF SEVERAL ANIMALS, CONSTRUCT A NEW CLASS SIMILARITIES, I.E., PETS, SMALL ANIMALS, LARGE ANIMALS AND HARMFUL
0205075002	WHEN GIVEN A LIST OF THIRTY DIFFERENT ANIMALS (OR PICTURES OF 20 OF THE ANIMALS OR ANIMAL PICTURES INTO GROUPS, I.E., MAMMALS, BIR
0205075003	WRITE A PARAGRAPH OR TWO ON THIS TOPIC HOW SCIENTISTS KNOW WHICH
0205075004	DESCRIBE AT LEAST TWO CHANGES IN THE STRUCTURE OF A HORSE DURING
0205075005	EXPLORE EVIDENCES OF LIFE IN THE PAST. DRAW INFERENCES ABOUT A FOSS FUNCTIONS OF BONES FROM A LIVING ANIMAL.

STRUCTURE AND BEHAVIOR (INBORN AND LEARNED), AND GIVE ONE EXAMPLE OF EACH.

VERAL ANIMALS, CONSTRUCT A NEW CLASSIFICATION SYSTEM GROUPING ANIMALS BY THEIR
ANIMALS, LARGE ANIMALS AND HARMFUL ANIMALS.

FERENT ANIMALS (OR PICTURES OF THIRTY DIFFERENT ANIMALS), CLASSIFY AT LEAS
TURES INTO GROUPS, I.E., MAMMALS, BIRDS OR AMPHIBIANS.

S TOPIC HOW SCIENTISTS KNOW WHICH BONES OF A FOSSIL FIT TOGETHER.

N THE STRUCTURE OF A HORSE DURING SIXTY MILLION YEARS.

E PAST. DRAW INFERENCES ABOUT A FOSSIL ANIMAL BY EXAMINING THE STRUCTURE AND
G ANIMAL.

0200080	CLASSIFY BY FIVE SENSES
0200080001	IDENTIFY THE SENSE OR SENSES USED IN EXAMINING A GIVEN
0200080002	KNOW THAT OBJECTS CAN BE IDENTIFIED BY SIZE, SHAPE,
0200080003	NAME A VARIETY OF OBJECTS, BY SIZE, SHAPE, COLOR,
0200080004	IDENTIFY A VARIETY OF OBJECTS BY SIZE, SHAPE, COLOR,
0200080005	KNOW THAT OBJECTS CAN BE ORDERED ACCORDING TO THEIR
0200080006	ORDER A VARIETY OF OBJECTS ACCORDING TO THEIR LIKENESSES
0200080007	KNOW THAT OBJECTS CAN BE DISTINGUISHED ACCORDING TO
0200080008	DISTINGUISH BETWEEN OBJECTS, ACCORDING TO THEIR COLORS.
0200080009	KNOW THAT OBJECTS CAN BE NAMED BY COLOR.
0200080010	KNOW THAT OBJECTS CAN BE IDENTIFIED BY COLORS.
0200080011	KNOW THAT OBJECTS CAN BE ORDERED BY COLORS.
0200080012	ORDER OBJECTS BY THEIR COLORS.
0200080013	CLASSIFY OBJECTS BY COLOR.
0200080014	NAME OBJECTS BY COLORS, AS RED, BLUE, YELLOW, AND GREEN.

S USED IN EXAMINING A GIVEN OBJECT.

ENTIFIED BY SIZE, SHAPE, COLOR, TEXTURE, AND MATERIAL.

BY SIZE, SHAPE, COLOR, TEXTURE, AND MATERIAL.

TS BY SIZE, SHAPE, COLOR, TEXTURE, AND MATERIAL.

DERED ACCORDING TO THEIR LIKENESSES AND DIFFERENCES.

ACCORDING TO THEIR LIKENESSES AND DIFFERENCES.

STINGUISHED ACCORDING TO COLORS.

, ACCORDING TO THEIR COLORS.

MED BY COLOR.

ENTIFIED BY COLORS.

DERED BY COLORS.

RS.

RED, BLUE, YELLOW, AND GREEN.

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0200080015     IDENTIFY OBJECTS BY COLORS, AS RED, BLUE, YELLOW, AND    GREEN.

0200080016     NAME THE PRIMARY COLORS.

0200080017     IDENTIFY THE SECONDARY COLOR RESULTING FROM THE          COMBINA

0200080018     CLASSIFY CIRCLES, TRIANGLES, SQUARES, AND RECTANGLES BY  SHAPE.

0200080019     KNOW THAT OBJECTS CAN BE IDENTIFIED BY THE SOUND THEY    MAKE.

0200080020     KNOW THAT OBJECTS CAN BE DISTINGUISHED BY SIMILAR        SOUNDS.

0200080021     RECOGNIZE OBJECTS THAT MAKE SOUNDS THAT YOU CAN HEAR.

0200080022     IDENTIFY OBJECTS BY THE SOUND THEY MAKE.

0200080023     DESCRIBE OBJECTS BY THE SOUND THEY MAKE.

0200080024     DISTINGUISH BETWEEN OBJECTS THAT GIVE A SIMILAR SOUND.

0200080025     GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE     WHICH S

0200080026     GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE     WHICH S

0200080027     CLASSIFY OBJECTS BY THE SOUNDS THEY MAKE.

0200080028     KNOW THAT OBJECTS CAN BE DISTINGUISHED BY TEXTURE,       TOUCH,
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, BLUE, YELLOW, AND GREEN.

TING FROM THE COMBINATION OF TWO PRIMARY COLORS.

ES, AND RECTANGLES BY SHAPE.

) BY THE SOUND THEY MAKE.

SHED BY SIMILAR SOUNDS.

THAT YOU CAN HEAR.

MAKE.

MAKE.

IVE A SIMILAR SOUND.

R SOUND, RECOGNIZE WHICH SOUND IS LOUDER.

R SOUND, RECOGNIZE WHICH SOUND IS MORE PLEASANT.

Y MAKE.

SHED BY TEXTURE, TOUCH, AND BY TASTE.

0200080029	DISTINGUISH BETWEEN OBJECTS OF SIMILAR TEXTURE, BY	TOUCH
0200080030	KNOW THAT TEXTURES CAN BE DESCRIBED BY TOUCH.	
0200080031	DESCRIBE THE TEXTURES OF A VARIETY OF OBJECTS BY	TOUCH
0200080032	AFTER TOUCHING AN OBJECT, DESCRIBE ITS TEXTURE.	
0200080033	RECOGNIZE A CIRCLE, A SQUARE, A TRIANGLE, AND A	RECTA
0200080034	KNOW THAT OBJECTS CAN BE DISTINGUISHED BY THEIR WEIGHT.	
0200080035	IDENTIFY HEAVIER OF TWO OBJECTS WHEN THEY ARE PLACED	ONE I
0200080036	KNOW THAT SUBSTANCES CAN BE IDENTIFIED BY ODOR AND	TASTE
0200080037	DESCRIBE SUBSTANCES BY ODOR AND TASTE, WHILE	BLINDF
0200080038	IDENTIFY SUBSTANCES BY ODOR AND TASTE, WHILE	BLINDF
0200080039	GIVEN OBJECTS THAT LOOK ALIKE BUT SMELL OR TASTE DIFFERENT.	DIFFER
0200080040	GIVEN VARIOUS FOODS TO TASTE, CLASSIFY THEIR TASTES AS	SALTY

0201080	CLASSIFY BY FIVE SENSES
0201080001	NAME THE PRIMARY COLORS.

JECTS OF SIMILAR TEXTURE, BY TOUCH AND BY TASTE.

BE DESCRIBED BY TOUCH.

OF A VARIETY OF OBJECTS BY TOUCHING THEM, WHILE BLINDFOLDED.

CT, DESCRIBE ITS TEXTURE.

SQUARE, A TRIANGLE, AND A RECTANGLE BY USING THE SENSE OF TOUCH.

BE DISTINGUISHED BY THEIR WEIGHT.

O OBJECTS WHEN THEY ARE PLACED ONE IN EACH HAND.

AN BE IDENTIFIED BY ODOR AND TASTE.

ODOR AND TASTE, WHILE BLINDFOLDED.

ODOR AND TASTE, WHILE BLINDFOLDED.

K ALIKE BUT SMELL OR TASTE DIFFERENT, RECOGNIZE WHETHER THEY SMELL OR TASTE

TASTE, CLASSIFY THEIR TASTES AS SALTY, SOUR, SWEET, OR BITTER.

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0201080002      RECOGNIZE OBJECTS THAT ARE THE PRIMARY COLORS.

0201080003      IDENTIFY THE SECONDARY COLOR RESULTING FROM THE          COMBINA

0201080004      CLASSIFY OBJECT BY COLOR.

0201080005      CLASSIFY BIRCH, WALNUT, AND OAK WOODS BY KIND.

0201080006      IDENTIFY OBJECTS MADE OF MORE THAN ONE MATERIAL.

0201080007      DESCRIBE SOME PROPERTIES OF A GIVEN METAL.

0201080008      CLASSIFY OBJECTS BY TEXTURE.

0201080009      RECOGNIZE THE ROCK AND POWDER FORMS OF A GIVEN KIND OF   ROCK.

0201080010      CLASSIFY ROCKS BY SIZE, COLOR, KIND, HARDNESS, AND       WEIGHT.

0201080011      RECOGNIZE A CIRCLE, A SQUARE, A TRIANGLE, AND A          RECTANG

0201080012      CLASSIFY CIRCLES, TRIANGLES, SQUARES, AND RECTANGLES BY  SHAPE.

0201080013      DESCRIBE THE SHAPE AND TEXTURE OF UNSEEN OBJECTS BY      USING T

0201080014      AFTER TOUCHING AN OBJECT, DESCRIBE ITS TEXTURE.

0201080015      GIVEN VARIOUS FOODS TO TASTE, CLASSIFY THEIR TASTES AS   SALTY,
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MARY COLORS.

TING FROM THE COMBINATION OF TWO PRIMARY COLORS.

OODS BY KIND.

ONE MATERIAL.

EN METAL.

S OF A GIVEN KIND OF ROCK.

D, HARDNESS, AND WEIGHT.

RIANGLE, AND A RECTANGLE BY USING THE SENSE OF TOUCH.

RES, AND RECTANGLES BY SHAPE.

UNSEEN OBJECTS BY USING THE SENSE OF TOUCH.

ITS TEXTURE.

SSIFY THEIR TASTES AS SALTY, SOUR, SWEET, OR BITTER.

0201080016	GIVEN OBJECTS THAT LOOK ALIKE BUT SMELL OR TASTE DIFFERENT.	DIF
0201080017	IDENTIFY THE SENSE OR SENSES USED IN EXAMINING A GIVEN	OBJ
0201080018	DESCRIBE THE PROPERTIES OF A GIVEN OBJECT.	
0201080019	DESCRIBE THE TEXTURE, SIZE, COLOR, SHAPE, AND	REF
0201080020	CLASSIFY WOOD, METAL, AND PLASTIC OBJECTS BY MATERIAL.	
0201080021	CLASSIFY OBJECTS BY SIZE. (USE ONLY THE SENSE OF	TOU
0201080022	CLASSIFY OBJECTS BY TEMPERATURE USING THE SENSE OF	TOU
0201080023	CLASSIFY GIVEN OBJECTS BY SMELL.	
0201080024	CLASSIFY GIVEN OBJECTS BY TASTE.	
0201080025	RECOGNIZE THE CHIPS, SAWDUST, AND SHAVINGS OF A GIVEN	KIN
0201080026	CLASSIFY STEEL, LEAD, BRASE, AND ALUMINUM OBJECTS BY	KIN
0201080027	CLASSIFY LIQUIDS BY DENSITY AND OPAQUENESS.	
0201080028	IDENTIFY THE LIQUID AND ICE FORMS OF WATER.	
0201080029	WHEN GIVEN AN OBJECT, EXAMINE AND DESCRIBE ORALLY THE CRITERIA SHAPE, COLOR, TEXTURE.	OBJ

ALIKE BUT SMELL OR TASTE DIFFERENT, RECOGNIZE WHETHER THEY SMELL OR TASTE

ENSES USED IN EXAMINING A GIVEN OBJECT.

OF A GIVEN OBJECT.

IZE, COLOR, SHAPE, AND REFLECTANCE OF A GIVEN OBJECT.

ND PLASTIC OBJECTS BY MATERIAL.

E. (USE ONLY THE SENSE OF TOUCH).

PERATURE USING THE SENSE OF TOUCH. (WARM, HOT, COLD).

BY SMELL.

BY TASTE.

WDUST, AND SHAVINGS OF A GIVEN KIND OF WOOD.

RASE, AND ALUMINUM OBJECTS BY KIND.

SITY AND OPAQUENESS.

ICE FORMS OF WATER.

EXAMINE AND DESCRIBE ORALLY THE OBJECT IN TERMS OF AT LEAST THREE OF THE FOLLOWING
, TEXTURE.

0201080030	GIVEN A LIST OF TWENTY-FIVE DESCRIPTIVE ADJECTIVES AND A LIST OF FO TEXTURE), MATCH AT LEAST FIVE OF THE ADJECTIVES WITH EACH SCIEN
0201080031	CLASSIFY A GROUP OF OBJECTS IN MORE THAN ONE WAY. (TEXTURE,
0205080	CLASSIFY BY FIVE SENSES
0205080001	RECOGNIZE SEVERAL PROPERTIES OF AN OBJECT OR SUBSTANCE INCLUDING STATE OF MATTER RECOGNIZE THE SENSE USED TO DETERMINE EACH OF TH

RIPTIVE ADJECTIVES AND A LIST OF FOUR SCIENTIFIC PROPERTIES (SHAPE, COLOR, ODOR,
THE ADJECTIVES WITH EACH SCIENTIFIC PROPERTY.

ORE THAN ONE WAY. (TEXTURE, SIZE, COLOR, SHAPE, REFLECTANCE).

AN OBJECT OR SUBSTANCE INCLUDING COLOR, SHAPE, SIZE, TEXTURE, TASTE, ODOR,
SENSE USED TO DETERMINE EACH OF THESE PROPERTIES.

0200085	CLASSIFY BY KIND, FORM, AND PROPERTIES
0200085001	KNOW THAT OBJECTS THAT HAVE SIMILAR SIZE, BUT DIFFER IN WEIGHT, C
0200085002	KNOW THAT OBJECTS CAN BE DESCRIBED ACCORDING TO WEIGHT ON A SCAL
0200085003	DESCRIBE SOME PROPERITES OF A GIVEN OBJECT. (COLOR, MAGNETISM
0200085004	DISTINGUISH BETWEEN TWO OBJECTS, ACCORDING TO THEIR WEIGHT.
0200085005	DESCRIBE OBJECTS ACCORDING TO THEIR WEIGHT ON A SCALE OR SPRING BA
0200085006	DISTINGUISH BETWEEN OBJECTS THAT HAVE SIMILAR SIZE, BUT DIFFER IN
0200085007	KNOW THAT OBJECTS THAT WILL FLOAT AND NOT FLOAT CAN BE DISTINGUIS
0200085008	DISTINGUISH BETWEEN OBJECTS THAT WILL FLOAT AND NOT FLOAT, BY
0200085009	KNOW THAT A SCALE WORKS BY CAUSING THE INDICATOR TO MOVE FARTH
0200085010	RECOGNIZE HEAVIER OF TWO OBJECTS WHEN THEY ARE PLACED ONE IN EAC
0200085011	DEMONSTRATE HOW A SCALE WORKS, BY WEIGHING OBJECTS, CAUSING TH OBJECTS.
0200085012	GIVEN STANDARD UNIT OF WEIGHT AND A SOLID OBJECT, PREDICT HO

0201085	CLASSIFY BY KIND, FORM, AND PROPERTIES
0201085001	IDENTIFY THE EVIDENCE OF AIR AS AN OBJECT.

HAVE SIMILAR SIZE, BUT DIFFER IN WEIGHT, CAN BE DISTINGUISHED BY USING A SCALE.

E DESCRIBED ACCORDING TO WEIGHT ON A SCALE OR SPRING BALANCE.

S OF A GIVEN OBJECT. (COLOR, MAGNETISM, WEIGHT, MATERIAL, SHAPE, TEXTURE).

OBJECTS, ACCORDING TO THEIR WEIGHT.

ING TO THEIR WEIGHT ON A SCALE OR SPRING BALANCE.

ECTS THAT HAVE SIMILAR SIZE, BUT DIFFER IN WEIGHT, BY USING A SCALE.

WILL FLOAT AND NOT FLOAT CAN BE DISTINGUISHED, BY PLACING THEM IN WATER.

ECTS THAT WILL FLOAT AND NOT FLOAT, BY PLACING THEM IN WATER.

BY CAUSING THE INDICATOR TO MOVE FARTHER WITH HEAVIER OBJECTS.

O OBJECTS WHEN THEY ARE PLACED ONE IN EACH PAN OF EQUAL-ARM BALANCE.

WORKS, BY WEIGHING OBJECTS, CAUSING THE INDICATOR TO MOVE FARTHER WITH HEAVIER

WEIGHT AND A SOLID OBJECT, PREDICT HOW MUCH OBJECT WOULD WEIGH IN STANDARD UNITS.

AND PROPERTIES

F AIR AS AN OBJECT.

0201085002	TELL AFTER OBSERVATION WHETHER A GIVEN OBJECT FLOATS OR SINKS IN W
0201085003	CLASSIFY OBJECTS BY TEMPERATURE USING A THERMOMETER.
0201085004	CLASSIFY OBJECTS BY WEIGHT.
0205085	CLASSIFY BY KIND, FORM, AND PROPERTIES
0205085001	USING A GRADUATED CYLINDER, MEASURE QUANTITIES OF WATER TO WITHIN
0205085002	USE AN ELEMENTARY BALANCE SCALE TO WEIGH OBJECTS TO THE NEAREST GR

GIVEN OBJECT FLOATS OR SINKS IN WATER.

SING A THERMOMETER.

RTIES

RE QUANTITIES OF WATER TO WITHIN TWO MILLILITERS OF EXACTNESS.

O WEIGH OBJECTS TO THE NEAREST GRAM.

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0202090         CLASSIFY (MATTER)

0202090001      GIVEN THE NAME OF 20 DIFFERENT MATERIALS USED IN OUR     DAIL
                PHYSICAL PROPERTIES AS LIQUID, GAS, OR SOLID.


0203090         CLASSIFY (MATTER)

0203090001      DEMONSTRATE 3 STATES OF MATTER AND ITS CHANGES.  USE     WATE

0203090002      KNOW THE DIFFERENCES IN LIMA BEANS AND SIMILAR SIZED     PEBB

0203090003      DISTINGUISH BETWEEN LIMA BEANS AND SIMILAR SIZED PEBBLES AS L

0203090004      KNOW THAT LIMA BEANS ARE LIVING THINGS AND MAY BE KILLED BY E

0203090005      DEMONSTRATE THAT LIMA BEANS ARE LIVING THINGS AND MAY    BE K
                BEANS BOILED IN WATER TEN MINUTES WILL NOT SPROUT AND    BEAN

0203090006      KNOW THAT LIMA BEANS WILL CHANGE, AND SIMILAR SIZED      PEBB
                AS COMPARED TO THE SAME SUBSTANCES NOT BOILED.

0203090007      DESCRIBE THAT LIMA BEANS WILL CHANGE, AND SIMILAR SIZED  PEBB
                AS COMPARED TO THE SAME SUBSTANCES NOT BOILED.


0204090         CLASSIFY (MATTER)

0204090001      KNOW THAT MATTER IS OF MANY KINDS.

0204090002      RECOGNIZE A SOLID, A LIQUID, AND A GAS ON THE BASIS OF   SHAP

0204090003      DESCRIBE HOW IT CAN BE SHOWN THAT MATTER HAS WEIGHT.

0204090004      DESCRIBE HOW IT CAN BE SHOWN THAT MATTER TAKES UP SPACE.
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T MATERIALS USED IN OUR DAILY LIVES, CLASSIFY THE MATERIALS ACCORDING TO THEIR
, GAS, OR SOLID.

R AND ITS CHANGES. USE WATER.

BEANS AND SIMILAR SIZED PEBBLES AS LIVING AND NON-LIVING SUBSTANCES.

S AND SIMILAR SIZED PEBBLES AS LIVING AND NON-LIVING SUBSTANCES.

NG THINGS AND MAY BE KILLED BY EXTREMES SUCH AS HEAT.

RE LIVING THINGS AND MAY BE KILLED BY EXTREMES SUCH AS HEAT, BY SHOWING THAT
UTES WILL NOT SPROUT AND BEANS NOT BOILED WILL SPROUT.

NGE, AND SIMILAR SIZED PEBBLES WILL NOT CHANGE, WHEN THEY ARE BOILED IN WATER,
ANCES NOT BOILED.

CHANGE, AND SIMILAR SIZED PEBBLES WILL NOT CHANGE, WHEN THEY ARE BOILED IN WATER
ANCES NOT BOILED.

INDS.

AND A GAS ON THE BASIS OF SHAPE.

THAT MATTER HAS WEIGHT.

THAT MATTER TAKES UP SPACE.

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0204090005        KNOW THAT MATTER IS NOT ALL MOLECULAR.

0204090006        KNOW THAT A SUBSTANCE MAY BE RECOGNIZED BY ITS          PROPERTI

0204090007        KNOW THAT SUBSTANCES HAVE PROPERTIES THAT DISTINGUISH    THEM FRO



0205090           CLASSIFY (MATTER)

0205090001        GIVEN A LIST OF SUBSTANCES, IDENTIFY EACH SUBSTANCE AS A GAS, LIQ

0205090002        GIVEN A LIST OF SUBSTANCES, IDENTIFY EACH SUBSTANCE AS A GAS, LIQ

0205090003        GIVEN SITUATION IN WHICH OBJECT OR SUBSTANCE MUST FIT    INTO PRE
                  CAPACITY, EXPLAIN WHETHER IT IS MOST IMPORTANT TO KNOW   ABOUT MA

0205090004        IDENTIFY AN ACCEPTABLE DEFINITION OF THE TERMS MATTER,   MOLECULE

0205090005        ON A DIAGRAM SHOWING THE PARTS OF AN ATOM, RECOGNIZE THE NUCLEUS,


0206090           CLASSIFY (MATTER)

0206090001        KNOW THAT THERE ARE HIDDEN LIKENESSES IN MATTER.

0206090002        KNOW THAT MATTER CAN UNDERGO CHANGE.

0206090003        GIVEN A LIST OF EARLY THEORIES ON MATTER, MATCH EACH     THEORY W
                  BOYLE, DEMOCRITUS, AND EMPEDOCLES).

0206090004        CLASSIFY COMMON SUBSTANCES AS ELEMENTS OR COMPOUNDS      WHEN GIV
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AR.

IZED BY ITS PROPERTIES.

S THAT DISTINGUISH THEM FROM ONE ANOTHER.

Y EACH SUBSTANCE AS A GAS, LIQUID, OR A SOLID.

Y EACH SUBSTANCE AS A GAS, LIQUID, OR A SOLID.

SUBSTANCE MUST FIT INTO PRESCRIBED SPACE OR CONFORM TO GIVEN WEIGHT
T IMPORTANT TO KNOW ABOUT MATERIAL'S WEIGHT OR ITS VOLUME.

F THE TERMS MATTER, MOLECULE, ATOM, ELECTRON, AND NEUTRON.

N ATOM, RECOGNIZE THE NUCLEUS, A PROTON, AN ELECTRON, AND A NEUTRON.

ES IN MATTER.

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ATTER, MATCH EACH THEORY WITH THE SCIENTIST WHO FURTHERED IT (DALTON,

NTS OR COMPOUNDS WHEN GIVEN SYMBOLS, FORMULAS, OR MODELS.

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0206090005     CLASSIFY SUBSTANCES (E.G., SUGAR, SALT, GLASS) AS        CRYST
               OR DRAWING OF THE MOLECULAR ARRANGEMENTS.
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SUGAR, SALT, GLASS) AS CRYSTALLINE OR NONCRYSTALLINE WHEN GIVEN A DESCRIPTION
ARRANGEMENTS.

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0200095        CLASSIFY (PLANTS)

0200095001     KNOW THAT PLANTS ARE DIFFERENT, ALTHOUGH THEY HAVE       SIMILAR L

0200095002     DESCRIBE THAT PLANTS DIFFER, BY OBSERVING DIFFERENT      PLANTS, A
               CHARACTERISTICS, THOUGH SIMILAR LIFE ACTIVITIES.


0204095        CLASSIFY (PLANTS)

0204095001     GIVEN DESCRIPTION OR EXAMPLE OF A PLANT, CLASSIFY IT     INTO ONE
               FERNS OR SEED PLANT (INCLUDING PLANTS WITH CONES AND     PLANTS WI
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NT, ALTHOUGH THEY HAVE SIMILAR LIFE ACTIVITIES.

BY OBSERVING DIFFERENT PLANTS, AND BY DISCUSSING THAT THEY HAVE DIFFERENT
LAR LIFE ACTIVITIES.

OF A PLANT, CLASSIFY IT INTO ONE OF THE MAJOR GROUPS SIMPLE PLANTS, MOSSES,
NG PLANTS WITH CONES AND PLANTS WITH FLOWERS).

0203100	CLASSIFY (PLANT AND ANIMAL)
0203100001	TELL POSSIBLE GEOGRAPHIC REASONS WHY PREHISTORIC PLANTS AND AN
0203100002	TELL WHAT A FOSSIL IS. TELL WHAT WE LEARN FROM FOSSILS.
0205100	CLASSIFY (PLANT AND ANIMAL)
0205100001	KNOW THAT SEDIMENTARY DEPOSITS INDICATE AGE OF FOSSILS.
0205100002	INFER THAT THE AGE OF FOSSILS CAN BE DATED WITH GREAT ACCURA
0205100003	FROM A GRAPH OF SEDIMENTARY LAYERS AND FOSSILS DETERMINE THE OL
0205100004	KNOW THAT LIVING THINGS CAN GROW AND CAN REPRODUCE.
0205100005	KNOW THAT PLANTS AND ANIMALS ARE USEFUL TO MAN IN MANY WAYS.

REASONS WHY PREHISTORIC PLANTS AND ANIMALS ARE NO LONGER LIVING.

ELL WHAT WE LEARN FROM FOSSILS.

L)

OSITS INDICATE AGE OF FOSSILS.

SILS CAN BE DATED WITH GREAT ACCURACY.

RY LAYERS AND FOSSILS DETERMINE THE OLDEST.

AN GROW AND CAN REPRODUCE.

ALS ARE USEFUL TO MAN IN MANY WAYS.

0204105	CLASSIFY (PLANT AND ANIMAL CELLS)
0204105001	DESCRIBE AS MANY DIFFERENCES AS YOU CAN WHEN OBSERVING PLANT AND
0205105	CLASSIFY (PLANT AND ANIMAL CELLS)
0205105001	GIVEN A SIMPLE SLIDE AND A MICROSCOPE, CLASSIFY OBJECTS ON THE SLI (E.G., AIR BUBBLES, DIRT, CRYSTALS).
0205105002	KNOW THAT PLANT AND ANIMAL CELLS HAVE BASICALLY SIMILAR STRUCTURES
0205105003	IDENTIFY FROM GROUP OF PICTURES EXHIBITING CELL STRUCTURE 1. PLANT CELLS 2. ANIMAL CELLS, OR 3. BOTH.
0205105004	KNOW THAT PLANT AND ANIMAL CELLS CHANGE MATTER AS THEY INTERCHANG

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U CAN WHEN OBSERVING   PLANT AND ANIMAL CELLS UNDER THE MICROSCOPE.



OPE, CLASSIFY OBJECTS  ON THE SLIDE AS CELLS OR OBJECTS WHICH ARE NOT CELLS
).

AVE BASICALLY SIMILAR  STRUCTURES.

HIBITING CELL          STRUCTURE THOSE CELLULAR CHARACTERISTICS PRESENT ONLY
 3. BOTH.

HANGE MATTER AS THEY   INTERCHANGE MATTER AND ENERGY WITH THE ENVIRONMENT,
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0205110	CLOTH
0205110001	EVALUATE THE USEFULNESS OF PLANT AND ANIMAL FIBERS.
0205110002	DISTINGUISH BETWEEN WOOL AND COTTON. OBSERVE ODOR OF BURNI
0206110	CLOTH
0206110001	KNOW THAT SILK FIBERS ARE MADE BY A LIVING ANIMAL.
0206110002	KNOW THAT KNOWLEDGE OF MOLECULAR STRUCTURE ENABLES MAN TO IN
0206110003	KNOW THAT FIBERS ARE MADE OF COMMON ELEMENTS.
0206110004	KNOW THAT ATOMS CAN BE REARRANGED IN MOLECULES TO FORM FIBER

NT AND ANIMAL FIBERS.

OTTON. OBSERVE ODOR OF BURNING PROTEIN WITH WOOL AND NOT COTTON.

BY A LIVING ANIMAL.

AR STRUCTURE ENABLES MAN TO INVENT NEW FIBERS WITH IMPROVED PROPERTIES.

OMMON ELEMENTS.

NGED IN MOLECULES TO FORM FIBERS WITH SPECIAL PROPERTIES.

0201115	ECOLOGY
0201115001	AFTER VIEWING A PICTURE SHOWING AREA OF NATURAL RESOURCES WA CONSERVATION PRACTICES.
0204115	ECOLOGY
0204115001	KNOW THAT ECOLOGY IS THE STUDY OF THE RELATIONSHIP OF LIVING THIN ENVIRONMENT.
0204115002	DO INDEPENDENT RESEARCH TO FIND OUT WHAT ECOLOGY IS AND HOW IT AFFEC
0204115003	USING THE OVERHEAD PROJECTOR, SHOW THREE AREAS IN WHICH NATURAL RESO
0204115004	TELL, OR DEVISE AN INVESTIGATION TO SHOW HOW RETURNING THE MATTER T
0204115005	PROVIDED WITH DATE CONCERNING WILDLIFE CONSERVATION IN THE EVERGLAD SUCH A PROGRAM.
0205115	ECOLOGY
0205115001	AFTER VIEWING A FILM ON CONSERVATION LIST FIVE CONSERVATION
0205115002	USING LIBRARY RESOURCES, WRITE TO THE SATISFACTION OF THE TEACHER, PRACTICES'.
0205115003	RELATE CONSERVATION PRACTICES TO 3 OF 5 COMPONENTS IN HIS ENVIRONM

OF NATURAL RESOURCES WASTED OR DESTROYED, LIST FOUR POOR

RELATIONSHIP OF LIVING THINGS TO EACH OTHER AND TO THEIR NONLIVING

HAT ECOLOGY IS AND HOW IT AFFECTS US.

REE AREAS IN WHICH NATURAL RESOURCES HAVE BEEN WASTED.

HOW HOW RETURNING THE MATTER TO THE ENVIRONMENT IS HELPFUL.

CONSERVATION IN THE EVERGLADES, ORALLY DESCRIBE A PLAN TO ACCOMPLISH

LIST FIVE CONSERVATION PRACTICES THAT SHOULD BE MODIFIED.

SATISFACTION OF THE TEACHER, A COMPOSITION TITLED 'ACCEPTED CONSERVATION

5 COMPONENTS IN HIS ENVIRONMENT (WATER, AIR, WILDLIFE, LAND, MINERAL).

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0202120       ELECTRICITY
0202120001    KNOW HOW TO CONSTRUCT A CIRCUIT, USING A DRY CELL,       WIRES, A
0202120002    IDENTIFY OPEN AND CLOSED CIRCUITS.
0202120003    PREDICT WHETHER OR NOT AN OBJECT WILL CLOSE AN OPEN      CIRCUIT.
0202120004    KNOW HOW A FLASHLIGHT WORKS.
0202120005    DESCRIBE HOW A FLASHLIGHT WORKS BY DISASSEMBLING ONE     AND OBSE
0202120006    CONSTRUCT A CIRCUIT, USING A DRY CELL, WIRES, AND A      LAMP, CA
0202120007    EXPLAIN WHY AN ELECTRICAL CIRCUIT IS A SYSTEM OF         INTERACT
0202120008    KNOW THAT HUMAN ENERGY CAN BE USED TO GENERATE           ELECTRIC
0202120009    DEMONSTRATE THAT HIS OWN ENERGY CAN BE USED TO GENERATE  ELECTRIC

0203120       ELECTRICITY
0203120001    BUILD AN ELECTRO MAGNET.
0203120002    CONSTRUCT AN ELECTROMAGNET USING A DRY CELL, AND COVERED COPPER W
0203120003    KNOW THAT A NAIL ACTS AS A MAGNET WHEN IT IS IN A COIL   OF WIRE
0203120004    DESCRIBE THAT A NAIL ACTS AS A MAGNET ONLY WHEN IT IS    IN A COI
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RCUIT, USING A DRY CELL, WIRES, AND A LAMP.

IRCUITS.

OBJECT WILL CLOSE AN OPEN CIRCUIT.

S.

WORKS BY DISASSEMBLING ONE AND OBSERVING THE COMPONENTS IN RELATION TO A CIRCUIT.

A DRY CELL, WIRES, AND A LAMP, CAUSING THE LAMP TO LIGHT.

CIRCUIT IS A SYSTEM OF INTERACTING OBJECTS.

BE USED TO GENERATE ELECTRICITY.

NERGY CAN BE USED TO GENERATE ELECTRICITY, BY USING A HAND GENERATOR TO LIGHT A LAMP.

USING A DRY CELL, AND COVERED COPPER WIRE TO FORM A COIL AROUND A LARGE NAIL.

MAGNET WHEN IT IS IN A COIL OF WIRE CONNECTED TO A DRY CELL.

AS A MAGNET ONLY WHEN IT IS IN A COIL OF WIRE CONNECTED TO A DRY CELL.

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0203120005     DEMONSTRATE THAT ELECTRIC ENERGY CAN MAKE THINGS MOVE,   BY USING TH

0203120006     KNOW THAT AN ELECTROMAGNET CAN MAKE A BELL RING.

0203120007     DEMONSTRATE THAT AN ELECTROMAGNET CAN MAKE A BELL RING,  BY WIRING T

0203120008     GIVEN ALL THE COMPONENTS TO CONSTRUCT A COMPLETE         ELECTRICAL
               ON WHAT WILL HAPPEN IF ALL COMPONENTS ARE CORRECTLY      CONNECTED.

0203120009     GIVEN WORKING COMPONENTS TO CONSTRUCT ELECTRICAL CIRCUIT AND ONE DEF
               DEFECTIVE COMPONENT RETARDS WORKING PARTS FROM           FUNCTIONING



0205120        ELECTRICITY

0205120001     WHEN GIVEN A LESSON ON THE USEFULNESS OF ELECTRICITY OF  TODAY, WRIT
               BE LIKE WITH OUT ELECTRICITY.

0205120002     WHEN PROVIDED WITH APPROPRIATE MATERIALS TO BUILD AN     ELECTRICAL
               LIGHT BULB), HYPOTHESIZE WHAT WOULD HAPPEN IF ALL THE    COMPONENTS


0206120        ELECTRICITY

0206120001     APPLY INFORMATION ON THE STRUCTURE OF THE ATOM IN        EXPLAINING

0206120002     EXPLAIN HOW THE PROCESSES OF 'INDUCTION' AND 'ELECTRON   TRANSFER' A

0206120003     EXPLAIN HOW ATTRACTION AND REPULSION BETWEEN CHARGED     OBJECTS ARE
               ON THE OBJECTS.

0206120004     DESCRIBE VARIABLES THAT AFFECT EXPERIMENTS ON STATIC     ELECTRICTY

0206120005     DESCRIBE SOME VARIABLES THAT AFFECT EXPERIMENTS ON       STATIC ELEC
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CAN MAKE THINGS MOVE, BY USING THE ELECTROMAGNET TO LIFT PAPER CLIPS.

KE A BELL RING.

CAN MAKE A BELL RING, BY WIRING THE BELL INTO THE ELECTROMAGNET CIRCUIT.

RUCT A COMPLETE ELECTRICAL CIRCUIT, DEMONSTRATE AND GIVE AN ORAL REPORT
ENTS ARE CORRECTLY CONNECTED.

RUCT ELECTRICAL CIRCUIT AND ONE DEFECTIVE COMPONENT, DEMONSTRATE HOW ONE
NG PARTS FROM FUNCTIONING.

NESS OF ELECTRICITY OF TODAY, WRITE AT LEAST TWO PARAGRAPHS ON WHAT LIFE WOULD

TERIALS TO BUILD AN ELECTRICAL CIRCUIT (DRY CELL, COPPER WIRE AND FLASH
LD HAPPEN IF ALL THE COMPONENTS WERE CONNECTED CORRECTLY.

E OF THE ATOM IN EXPLAINING STATIC ELECTRICITY.

UCTION' AND 'ELECTRON TRANSFER' ARE USED TO DEVELOP STATIC CHARGES ON OBJECTS.

ION BETWEEN CHARGED OBJECTS ARE RELATED TO THE KINDS OF ELECTRICAL CHARGES

PERIMENTS ON STATIC ELECTRICTY AND EXPLAIN THE EFFECT.

CT EXPERIMENTS ON STATIC ELECTRICITY AND EXPLAIN THE EFFECT.

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0206120006     KNOW THAT FRICTION MAY TRANSFER ELECTRONS, GIVING        OBJECTS

0206120007     THE CHILD WILL DEMONSTRATE A FORCE OF ATTRACTION BY      RUBBING
               OF TISSUE PAPER TO CLING TO THE ROD.

0206120008     KNOW THAT STATIC ELECTRICITY IS STORED ENERGY   CURRENT  ELECTRIC

0206120009     KNOW THAT METALS ARE GOOD CONDUCTORS.

0206120010     KNOW THAT ELECTRIC ENERGY CAN BE CHANGED INTO OTHER      KINDS OF

0206120011     KNOW THAT THE ENERGY GOTTEN OUT OF MOVING ELECTRONS IS   NEVER GR
               MOVE THROUGH A CIRCUIT.

0206120012     KNOW THAT A MAGNET MOVING IN A COIL OF WIRE INDUCES A    FLOW OF
               CAN BE INCREASED.

0206120013     DEMONSTRATE EXISTANCE OF ELECTRIC CURRENT USING          GALVANME
               THE GALVANOMETER POINTER TO MOVE AS THE MAGNET IS MOVED  THROUGH

0206120014     DEMONSTRATE INCREASING THE CURRENT BY USING A STRONGER   MAGNET,
               MORE WINDINGS IN THE COIL RATHER THAN FEWER WINDINGS.

0206120015     KNOW THAT A WIRE THROUGH WHICH ELECTRONS ARE FLOWING     HAS A MA

0206120016     KNOW THAT A STRONGER MAGNET MAY BE MADE BY CONVERTING    ELECTRIC

0206120017     KNOW THAT THE ENERGY OF MOVING ELECTRONS CAN BE USED TO  DO WORK.

0206120018     DEMONSTRATE SUBSTANCES VARY IN THEIR ABILITY TO CONDUCT  ELECTRIC
               CONDUCTIVITY OF VARIOUS METALS CAUSING A LAMP TO LIGHT.

0206120019     CONSTRUCT A CIRCUIT TESTER BY CONNECTING DRY CELL        TERMINAL
               CAUSING THE LAMP TO LIGHT WHEN THE CIRCUIT IS COMPLETED.
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SFER ELECTRONS, GIVING OBJECTS AN ELECTRIC CHARGE.

A FORCE OF ATTRACTION BY RUBBING A PLASTIC ROD WITH A WOOL CLOTH, CAUSING PIECES
THE ROD.

Y IS STORED ENERGY CURRENT ELECTRICITY IS KINETIC ENERGY.

ONDUCTORS.

AN BE CHANGED INTO OTHER KINDS OF ENERGY.

OUT OF MOVING ELECTRONS IS NEVER GREATER THAN THE ENERGY PUT INTO MAKING ELECTRONS

N A COIL OF WIRE INDUCES A FLOW OF ELECTRONS IN THE WIRE THIS FLOW OF ELECTRONS

ECTRIC CURRENT USING GALVANMETER, COIL OF WIRE AND A STRONG MAGNET, CAUSING
MOVE AS THE MAGNET IS MOVED THROUGH THE COIL.

CURRENT BY USING A STRONGER MAGNET, USING FASTER RATHER THAN SLOWER MOVEMENTS AND
ATHER THAN FEWER WINDINGS.

ICH ELECTRONS ARE FLOWING HAS A MAGNETIC FIELD.

MAY BE MADE BY CONVERTING ELECTRIC ENERGY INTO A MAGNETIC FORCE.

ING ELECTRONS CAN BE USED TO DO WORK.

IN THEIR ABILITY TO CONDUCT ELECTRICITY, BY USING A CIRCUIT TESTER TO CHECK
ALS CAUSING A LAMP TO LIGHT.

BY CONNECTING DRY CELL TERMINALS, THREE PIECES OF WIRE AND A LAMP AND SOCKET
HEN THE CIRCUIT IS COMPLETED.

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0206120020     KNOW THAT MAGNETISM AND MECHANICAL ENERGY TOGETHER       PROVIDE A ST
               FLOW OF ELECTRONS CAN BE CONVERTED INTO A STEADY         FORCE TO DO

0206120021     LOCATE AND IDENTIFY THE PARTS (CORE, COIL, SOURCE) OF AN ELECTROMAGNE
               ONE.

0206120022     DEMONSTRATE HOW STRENGTH OF MAGNETIC FIELD PRODUCED BY   AN ELECTROMA
               WIRE AROUND THE CORE.

0206120023     APPLY PRINCIPLES OF ELECTROMAGNETISM WHEN YOU MAKE A     SIMPLE ELECT
               PEOPLE.

0206120024     KNOW THAT IN AN ELECTRIC BELL, ELECTRIC ENERGY DOES WORK IN MOVING AN

0206120025     CONSTRUCT ELECTRIC BELL.  MAKE COIL OF 100 TURNS OF      WIRE.  USE C
               VOLT DRY CELLS.

0206120026     DEMONSTRATE HOW TO CONNECT DRY CELLS AND WIRE TO         ELECTRIC BEL

0206120027     DEMONSTRATE OPERATION OF ELECTRIC BELL.  RING IT WHEN    KNIFE SWITCH

0206120028     NAME PARTS OF ELECTRIC BELL.

0206120029     DESCRIBE HOW AN ELECTRIC BELL WORKS BY OBSERVING         MECHANISM AT
               OF CURRENT.

0206120030     KNOW THAT ELECTRIC ENERGY CAN BE CONVERTED TO SOUND      ENERGY BY A

0206120031     MAKE WORKING MODEL OF TELEGRAPH.  MAKE COIL AND KEY.     USE WOOD ADD

0206120032     DEMONSTRATE OPERATION OF TELEGRAPH.  SOUNDER MAKES       CLICKS AS KE

0206120033     MAKE WORKING MODEL OF TELEPHONE TRANSMITTER.  USE SUGAR  BOX, ALUMINU
               EARPHONE, AND FOUR 1.5 VOLT DRY CELLS.
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NICAL ENERGY TOGETHER PROVIDE A STRONG AND STEADY FLOW OF ELECTRONS THIS
FRTED INTO A STEADY FORCE TO DO WORK.

(CORE, COIL, SOURCE) OF AN ELECTROMAGNET WHEN GIVEN A DESCRIPTION OR DIAGRAM OF

AGNETIC FIELD PRODUCED BY AN ELECTROMAGNET IS AFFECTED BY THE NUMBER OF TURNS OF

GNETISM WHEN YOU MAKE A SIMPLE ELECTROMAGNET. DEMONSTRATE ITS USE TO A GROUP O

, ELECTRIC ENERGY DOES WORK IN MOVING AN OBJECT, THE CLAPPER, THROUGH A DISTANCE.

E COIL OF 100 TURNS OF WIRE. USE CLAPPER, BELL, KNIFE, SWITCH, WOOD, 2 1.5-

Y CELLS AND WIRE TO ELECTRIC BELL SO IT RINGS.

TRIC BELL. RING IT WHEN KNIFE SWITCH CLOSED.

WORKS BY OBSERVING MECHANISM AT REST AND WHILE IT IS RINGING. DISCUSS FLO

N BE CONVERTED TO SOUND ENERGY BY A MECHANICAL DEVICE.

APH. MAKE COIL AND KEY. USE WOOD ADD TWO 1.5 VOLT DRY CELLS.

EGRAPH. SOUNDER MAKES CLICKS AS KEY DEPRESSED.

ONE TRANSMITTER. USE SUGAR BOX, ALUMINUM STRIPS, PAPER CLIPS, WIRE, PENICL LEADS,
DRY CELLS.

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0206120034     DEMONSTRATE OPERATION OF TELEPHONE TRANSMITTER.  SPEAK   INTO BOX
               VOICE.

0206120035     DEMONSTRATE HOW TELEPHONE RECEIVER CHANGES ELECTRICITY   TO SOUND
               CELL.  IRON DISC VIBRATES AND MAKES SOUND WAVES.

0206120036     KNOW THAT AN ELECTRIC MOTOR TRANSFERS AND MULTIPLIES A   FORCE.

0206120037     MAKE WORKING MODEL OF ELECTRIC MOTOR.  MAKE ARMATURE AND COILS OF
               VOLT DRY CELLS.

0206120038     DEMONSTRATE OPERATION OF ELECTRIC MOTOR.  ARMATURE SPINS WHEN KNIF

0206120039     KNOW THAT OPENING AND CLOSING A SWITCH IN AN ELECTRIC    CIRCUIT

0206120040     KNOW THAT SOUND WAVES MAY BE CONVERTED INTO VARYING      STRENGTHS
               CONDUCTOR, AND RECONVERTED INTO SOUND WAVES.

0206120041     KNOW THAT SOUND WAVES CAN BE CONVERTED INTO ELECTRICAL   ENERGY, T
               SOUND WAVES.

0206120042     KNOW THAT ELECTRIC ENERGY CAN BE CHANGED TO              ELECTROMA
               SPACE AT THE SPEED OF LIGHT.

0206120043     KNOW THAT WHENEVER ELECTRONS FLOW THROUGH A WIRE, THEY   SET UP A

0206120044     KNOW THAT ELECTRONS MOVING BACK AND FORTH GENERATE       ELECTROMA

0206120045     KNOW THAT ELECTROMAGNETIC WAVES CAN BE CHANGED TO        ELECTRIC

0206120046     KNOW THAT LIGHT ENERGY LIKE SOUND ENERGY, CAN BE         CONVERTED

0206120047     KNOW THAT ELECTROMAGNETIC WAVES CAN BE SEPARATED BY      THEIR FRE
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EPHONE TRANSMITTER.  SPEAK    INTO BOX.  VIBRATIONS CARRY CURRENT-WITH PATTERN-LIKE

CEIVER CHANGES ELECTRICITY    TO SOUND.  EXPOSE INSIDE OF RECIEVER, TOUCH WIRES TO DR
 MAKES SOUND WAVES.

TRANSFERS AND MULTIPLIES A    FORCE.

IC MOTOR.  MAKE ARMATURE AND  COILS OF WIRE.  USE KNIFE, SWITCH, PEGBOARD, AND TWO 1.

CTRIC MOTOR.  ARMATURE SPINS  WHEN KNIFE SWITCH CLOSED.

S A SWITCH IN AN ELECTRIC     CIRCUIT CAN BE USED TO TRANSMIT SIGNALS.

 CONVERTED INTO VARYING       STRENGTHS OF ELECTRIC CURRENT, TRANSFERRED THROUGH A
NTO SOUND WAVES.

 CONVERTED INTO ELECTRICAL    ENERGY, TRANSMITTED OVER A CIRCUIT, AND RECONVERTED TO

N BE CHANGED TO               ELECTROMAGNETIC WAVES THAT CAN CARRY SIGNALS THROUGH

 FLOW THROUGH A WIRE, THEY    SET UP A MAGNETIC FIELD AROUND THE WIRE.

ACK AND FORTH GENERATE        ELECTROMAGNETIC WAVES.

VES CAN BE CHANGED TO         ELECTRIC ENERGY THAT CAN BE CONVERTED INTO SOUND WAVES.

SOUND ENERGY, CAN BE          CONVERTED TO ELECTROMAGNETIC WAVES.

VES CAN BE SEPARATED BY       THEIR FREQUENCIES.
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0206120048 KNOW THAT ELECTROMAGNETIC WAVES CAN ACTIVATE DEVICES IN SPACE TO GAT
SIGNALS TO EARTH.

AVES CAN ACTIVATE DEVICES IN SPACE TO GATHER LIGHT AND SOUND .AND TRANSMIT THEIR

0203125	ENERGY TRANSFORMATION
0203125001	DISCOVER THAT ENERGY IS REQUIRED TO CAUSE MOVEMENT BY USING
0203125002	EXPLAIN DIFFERENCE IN STORED ENERGY AND ENERGY OF MOTIO
0203125003	STATE THAT ENERGY CAN BE CHANGED NOT MADE.
0203125004	GIVE THE CORRECT DEFINITION OF THE FOLLOWING IN A MATCH MOLECULE.
0204125	ENERGY TRANSFORMATION
0204125001	KNOW THAT WHEN ENERGY CHANGES FROM ONE FORM TO ANOTHER, THE T
0205125	ENERGY TRANSFORMATION
0205125001	KNOW THAT GRAVITATION IS UNIVERSAL.
0205125002	KNOW THAT WEIGHT IS A MEASURE OF GRAVITATIONAL PULL ON A MASS.
0205125003	INFER THAT THE LESS THE MASS, THE LESS ITS GRAVITATIONAL PULL A OVERCOME IT.
0205125004	INFER THAT THE GREATER THE MASS, THE GREATER ITS GRAVIT BE USED TO OVERCOME IT.
0205125005	KNOW THAT TO MOVE AN OBJECT, ENERGY MUST BE APPLIED TO OVERCO
0205125006	TELL HOW ENERGY IS USEFUL TO YOU WHEN RELEASED.
0205125007	KNOW THAT CHANGES ARE PREDICTABLE.

QUIRED TO CAUSE MOVEMENT BY USING WATER AND A BOAT.

ED ENERGY AND ENERGY OF MOTION.

HANGED NOT MADE.

N OF THE FOLLOWING IN A MATCHING TEST SOLAR ENERGY, ENERGY, HEAT, AND

GES FROM ONE FORM TO ANOTHER, THE TOTAL AMOUNT OF ENERGY REMAINS UNCHANGED.

NIVERSAL.

URE OF GRAVITATIONAL PULL ON A MASS.

SS, THE LESS ITS GRAVITATIONAL PULL AND THE LESS THE ENERGY WHICH MUST BE USED TO

MASS, THE GREATER ITS GRAVITATIONAL PULL AND THE GREATER THE ENERGY WHICH MUST

T, ENERGY MUST BE APPLIED TO OVERCOME THE PULL OF GRAVITATION.

TO YOU WHEN RELEASED.

ICTABLE.

0205125008	KNOW THAT MATTER CAN BE CHANGED INTO ENERGY. HOWEVER THE TOTAL A REMAINS THE SAME.
0205125009	KNOW THAT WHEN ENERGY CHANGES FROM ONE FORM TO ANOTHER, THE TOTAL A
0206125	ENERGY TRANSFORMATION
0206125001	KNOW THAT WHEN ENERGY CHANGES FROM ONE FORM TO ANOTHER, THE TOTAL A
0206125002	KNOW THAT IN ALL MASS-ENERGY RELATIONSHIPS, THE SUM OF THE AMOUNTS UNCHANGED.
0206125003	GIVEN DESCRIPTION OF AN ENERGY CHANGE, EXPLAIN IF IT HAS BEEN A TRAN ENERGY AND/OR NAME THE FORM OR STATE TO WHICH IT HAS BEEN CHANGE
0206125004	RECOGNIZE SITUATIONS IN WHICH WORK, AS A SCIENTIST DEFINES IT,

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O ENERGY.  HOWEVER    THE TOTAL AMOUNT OF MATTER AND ENERGY IN THE UNIVERSE

ONE FORM TO ANOTHER,  THE TOTAL AMOUNT OF ENERGY REMAINS UNCHANGED.




ONE FORM TO ANOTHER,  THE TOTAL AMOUNT OF ENERGY REMAINS UNCHANGED.

CNSHIPS, THE SUM OF   THE AMOUNTS OF MATTER AND ENERGY INVOLVED REMAINS

GE, EXPLAIN IF IT HAS BEEN A TRANSFORMATION IN THE FORM OR THE STATE OF THE
E TO WHICH IT HAS     BEEN CHANGED.

 AS A SCIENTIST       DEFINES IT, IS DONE.
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0202130	ENERGY TRANSFORMATION (AIR)
0202130001	CONSTRUCT A HYPOTHESIS THAT THIS EXPANSION OF HEATED AIR IN A BALL
0202130002	KNOW THAT AIR IN A BOTTLE CAN BE HEATED TO EXPAND A BALLOON.
0202130003	DESCRIBE THAT AIR IN A BOTTLE CAN BE HEATED TO EXPAND A BALLOON.
0203130	ENERGY TRANSFORMATION (AIR)
0203130001	KNOW THAT MOVING AIR HAS ENERGY.
0203130002	CONSTRUCT A PINWHEEL, USING A ROUND PIECE OF CARDBOARD, KNITTING
0203130003	DEMONSTRATE THAT WIND WILL HAVE ENERGY OF MOTION BY USE OF PINWHE
0203130004	DEMONSTRATE THAT MOVING AIR HAS ENERGY, BY USING THE PINWHEEL PLACING IT IN FRONT OF AN ELECTRIC FAN.
0204130	ENERGY TRANSFORMATION (AIR)
0204130001	KNOW THAT HEATED AIR EXPANDS, COOLED AIR CONTRACTS.
0204130002	DEMONSTRATE THAT WARMED AIR EXPANDS, BY CAUSING A DEFLATED OVER A BOTTLE OPENING AND THE BOTTLE IS HEATED.
0204130003	DEMONSTRATE HOW TO COLLECT CLEAN AIR, BY BUBBLING AIR THROUGH A INVERTED BOTTLE.
0206130	ENERGY TRANSFORMATION (AIR)

HIS EXPANSION OF HEATED AIR IN A BALLOON MAY BE DUE TO FASTER MOVING MOLECULES.

BE HEATED TO EXPAND A BALLOON.

CAN BE HEATED TO EXPAND A BALLOON.

RGY.

ROUND PIECE OF CARDBOARD, KNITTING NEEDLES, AND RUBBER BANDS.

AVE ENERGY OF MOTION BY USE OF PINWHEEL.

HAS ENERGY, BY USING THE PINWHEEL AND CAUSING IT TO TURN BY BLOWING ON IT OR BY
ECTRIC FAN.

, COOLED AIR CONTRACTS.

EXPANDS, BY CAUSING A DEFLATED BALLOON TO INFLATE WHEN THE BALLOON IS PLACED
E BOTTLE IS HEATED.

LEAN AIR, BY BUBBLING AIR THROUGH A PAN OF WATER, DISPLACING WATER FROM AN

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0206130001      DEMONSTRATE FASTER MOVING AIR HAS LOWER PRESSURE BY      BLOWING BET
                AN INVERTED FUNNEL CONTAINING A PING PONG CAUSING THE    BALL TO BE

0206130002      KNOW THAT AIR MOVING FASTER OVER THE UPPER SURFACE OF AN OBJECT DEVE

0206130003      DEMONSTRATE   KINETIC ENERGY INCREASES AND TEMPERATURE   RISES AS MO
                TIRE.  PUMP GETS HOT NEAR BOTTOM.  USE FIRE SYRINGE TO   COMPRESS AI
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AS LOWER PRESSURE BY BLOWING BETWEEN TWO SUSPENDED APPLES AND BLOWING THROUGH
PING PONG CAUSING THE BALL TO BE SUSPENDED INSIDE THE FUNNEL.

R THE UPPER SURFACE OF AN OBJECT DEVELOPS A LIFTING FORCE.

CREASES AND TEMPERATURE RISES AS MOLECULES OF GAS PRESS CLOSER. PUMP AIR INTO
M. USE FIRE SYRINGE TO COMPRESS AIR. AIR GETS HOT, IGNITES COTTON INSIDE.

0205135	ENERGY TRANSFORMATION (ATOMS)
0205135001	KNOW THAT THE EARTH'S MATTER IS BUILT UP OF ATOMS COMBINED
0205135002	KNOW THAT AN ELEMENT IS MADE UP OF ONE KIND OF ATOM, WITH A D BUILDING BLOCKS OF MATTER.
0205135003	TELL OR SHOW BY MODEL THAT ALL MATTER IS COMPOSED OF ATOMS.
0205135004	ON A DIAGRAM SHOWING THE PARTS OF AN ATOM, RECOGNIZE THE NUCLEUS,
0205135005	INFER THERE IS NO CHANGE IN WEIGHT AS ATOMS RECOMBINE INTO NEW
0206135	ENERGY TRANSFORMATION (ATOMS)
0206135001	EXPLAIN DIFFERENCE BETWEEN ATOMS AND MOLECULES WHEN GIVEN A
0206135002	MAKE MODELS OF NEUTRAL ATOMS OF DIFFERENT ELEMENTS.
0206135003	NAME KINDS OF PARTICLES IN ATOM.
0206135004	RECOGNIZE RELATIONSHIP BETWEEN THE ATOMIC NUMBER OF AN ELEMENT ELEMENT.
0206135005	DESCRIBE ATOMS. MADE UP OF 3 KINDS OF PARTICLES, OBSERVE PARTICLES, DIFFERENT NUMBERS.
0206135006	KNOW THAT ELECTRONS ARE EXTREMELY SMALL.
0206135007	KNOW THAT LOSS OR GAIN OF AN ELECTRON GIVES AN ATOM A CHARGE.
0206135008	KNOW THAT THE BASIC ATOMIC PARTICLES ARE PROTONS WITH A POSITIVE NEUTRONS WITH NO CHARGE.

OMS)

TER IS BUILT UP OF ATOMS COMBINED IN MANY WAYS.

ADE UP OF ONE KIND OF ATOM, WITH A DEFINABLE SET OF PROPERTIES. ATOMS ARE THE
.

T ALL MATTER IS COMPOSED OF ATOMS.

PARTS OF AN ATOM, RECOGNIZE THE NUCLEUS, A PROTON, AN ELECTRON, AND A NEUTRON.

IN WEIGHT AS ATOMS RECOMBINE INTO NEW SUBSTANCES.

OMS)

N ATOMS AND MOLECULES WHEN GIVEN A DIAGRAM, DRAWING, OR DESCRIPTION OF EACH.

OMS OF DIFFERENT ELEMENTS.

IN ATOM.

ETWEEN THE ATOMIC NUMBER OF AN ELEMENT AND THE NUMBER OF ELECTRONS IN THE ATOM OF THE

OF 3 KINDS OF PARTICLES, OBSERVE 4 DIFFERENT MODELS OF ATOMS WITH SAME KINDS OF
ERS.

EXTREMELY SMALL.

F AN ELECTRON GIVES AN ATOM A CHARGE.

IC PARTICLES ARE PROTONS WITH A POSITIVE CHARGE, ELECTRONS WITH A NEGATIVE CHARGE, AND

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0206135009     KNOW THAT EACH DIFFERENT ATOM CONSISTS OF PARTICLES       ARRANGED IN ITS

0206135010     KNOW THAT THE NUMBER OF PARTICLES IN AN ATOM DETERMINES  ITS STRUCTURE

0206135011     REINFORCE CONCEPT OF ATOMIC STRUCTURE BY MODELING        SEVERAL ATOMS.

0206135012     KNOW THAT WHEN THE NUCLEUS OF THE ATOM CHANGES, ENERGY   IS RELEASED.

0206135013     KNOW THAT THE PARTS OF THE ATOM ARE TIGHTLY BOUND        TOGETHER   CERT

0206135014     KNOW THAT RADIOACTIVE (UNSTABLE) ATOMS EMIT PARTICLES    FROM THEIR NUCL

0206135015     KNOW THAT A CHANGE IN THE NUMBER OF PROTONS IN AN ATOM   CHANGES THE AT

0206135016     KNOW THAT ENERGY MUST BE PUT IN TO INCREASE SPEED OF     NUCLEAR PARTICL

0206135017     KNOW THAT ENERGY INPUT IS NEEDED TO RAISE THE ATOMIC     NUMBER.
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CONSISTS OF PARTICLES        ARRANGED IN ITS OWN CHARACTERISTIC STRUCTURE.

LES IN AN ATOM DETERMINES   ITS STRUCTURE AND ITS ATOMIC WEIGHT.

TRUCTURE BY MODELING         SEVERAL ATOMS.

THE ATOM CHANGES, ENERGY     IS RELEASED.

OM ARE TIGHTLY BOUND         TOGETHER   CERTAIN PARTS ARE ELECTRICALLY CHARGED.

E) ATOMS EMIT PARTICLES      FROM THEIR NUCLEUS   THESE PARTICLES HAVE ENERGY.

BER OF PROTONS IN AN ATOM    CHANGES THE ATOM INTO THAT OF ANOTHER ELEMENT.

IN TO INCREASE SPEED OF      NUCLEAR PARTICLES.

DED TO RAISE THE ATOMIC      NUMBER.
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0203140          ENERGY TRANSFORMATION (BURNING CANDLE)

0203140001       DEMONSTRATE THAT WE GET LIGHT AND HEAT ENERGY WHEN A     FUEL BUR


0204140          ENERGY TRANSFORMATION (BURNING CANDLE)

0204140001       STATE THAT ENERGY CAN BE CHANGED FROM ONE FORM TO        ANOTHER

0204140002       WHEN PROVIDED WITH APPROPRIATE MATERIALS TO START A      FIRE, OB
                 LEAST ONE PARAGRAPH BASED ON OBSERVATIONS.

0204140003       DESCRIBE THAT A CHEMICAL CHANGE IS OCCURRING AS A CANDLE BURNS, T
                 GIVEN OFF.

0204140004       DEMONSTRATE THAT A CANDLE BURNS AT CONSTANT RATE, BY     PLACING
                 TIME IT TAKES FOR THE PARAFFIN TO DISAPPEAR.

0204140005       DEMONSTRATE THAT CARBON DIOXIDE FORMS WHEN A CANDLE      BURNS, B
                 CONTAIN CLEAR LIMEWATER, CAUSING THE LIMEWATER TO TURN   CLOUDY W


0206140          ENERGY TRANSFORMATION (BURNING CANDLE)

0206140001       DEMONSTRATE WHEN A FUEL BURNS WATER IS FORMED, BY        PLACING
                 GOES OUT AND WATER FORMS INSIDE JAR.
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RNING CANDLE)

IGHT AND HEAT ENFRGY WHEN A     FUEL BURNS.  (BY USE OF CANDLE).



RNING CANDLE)

CHANGED FROM ONF FORM TO        ANOTHER (BY DEMONSTRATION OF BURNING CANDLE).

RIATF MATERIALS TO START A      FIRE, OBSERVE THE COMBINED FIRE AND CANDLE AND WRITE AT
 ON OBSERVATIONS.

CHANGE IS OCCURRING AS A CANDLE BURNS, THE PARAFFIN DISAPPEARS, AND LIGHT AND HEAT ARE

 BURNS AT CONSTANT RATE, BY     PLACING HALF-INCH MARKS ON THE CANDLE AND MEASURING THE
AFFIN TO DISAPPFAR.

IOXIDE FORMS WHFN A CANDLE      BURNS, BY ARRANGING A CANDLE INSIDE JOINED JARS WHICH
CAUSING THE LIMEWATER TO TURN   CLOUDY WHEN THE LIGHTED CANDLE IS PUT OUT.



RNING CANDLE)

URNS WATER IS FORMED, BY        PLACING A BURNING CANDLE IN A CLOSED JAR UNTIL THE FLAME
INSIDE JAR.
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0204145       ENERGY TRANSFORMATION (CARBON DIOXIDE)

0204145001    UNDERSTAND THAT EXHALED AIR CONTAINS CARBON DIOXIDE.

0204145002    SHOW THAT OXYGEN AND CARBON DIOXIDE HAVE DIFFERENT       PROPERTI

0204145003    DESCRIBE THAT CARBON DIOXIDE CAUSES LIMEWATER TO TURN TO A MILKY

0204145004    DISTINGUISH BETWEEN AIR FROM HIS LUNGS AND AIR FROM THE  ATMOSPHE
              COMPARING RESULTS WITH A SIMILAR TEST WHERE AIR FROM A   BICYCLE

0204145005    DEMONSTRATE AND ANSWER QUESTIONS ABOUT THE PROPERTIES    OF CARBON
              AND ONE BLOWN UP BY A PERSON.

0204145006    DEMONSTRATE THAT THE AIR FROM LUNGS CONTAINS CARBON      DIOXIDE,
              INTO LIMEWATER.

0204145007    KNOW THAT OXYGEN GIVES ENERGY WHEN IT COMBINES           CHEMICAL


0205145       ENERGY TRANSFORMATION (CARBON DIOXIDE)

0205145001    EXAMINE THE MAKING OF CARBON DIOXIDE BY YEAST, AND INFER THAT YEAS

0205145002    DEMONSTRATE YEAST IN SUGAR MAKES CARBON DIOXIDE.  PUT    POWDERED
              SET 10 MINUTES   BUBBLES TURN LIMEWATER MILKY.

0205145003    CONSTRUCT CARBON DIOXIDE GENERATOR.  USE EGG SHELLS IN   VINEGAR
              DISPLACEMENT.

0205145004    DEMONSTRATE TEST FOR CARBON DIOXIDE.  USE GAS IN ABOVE   ACTIVITI
              CLOUDY.

0205145005    DEMONSTRATE SIMILARITY OF MILKY LIMEWATER TO EGGSHELL.   COMPARE
              ACTION ON LIMEWATER.

0205145006    SHOW SOAKED SEEDS MAKE CARBON DIOXIDE.  PUT SOAKED LIMA  BEANS ON
              SQUEEZE GENERATOR  GAS BUBBLES INTO LIMEWATER, TURNS     MILKY.
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XIDE)

INS CARBON DIOXIDE.

CE HAVE DIFFERENT         PROPERTIES USING LIMEWATER AS A REAGENT.

ES LIMEWATER TO TURN TO A MILKY COLOR.

LUNGS AND AIR FROM THE  ATMOSPHERE, USING EXHALATION THROUGH LIMEWATER AND
TEST WHERE AIR FROM A   BICYCLE PUMP IS USED TO FILL A BALLOON.

ABOUT THE PROPERTIES    OF CARBON DIOXIDE BY USING ONE BALLOON FILLED BY A PUMP

GS CONTAINS CARBON      DIOXIDE, BY BLOWING INTO A BALLOON AND BUBBLING THE AIR

N IT COMBINES           CHEMICALLY WITH CARBON.



XIDE)

IDE BY YEAST, AND INFER THAT YEAST CELLS ARE ALIVE.

CARBON DIOXIDE.  PUT    POWDERED YEAST, SUGAR, IN WARM WATER IN GAS GENERATOR
EWATER MILKY.

R.  USE EGG SHELLS IN   VINEGAR IN FLASK  COLLECTS BUBBLES BY WATER

DE.  USE GAS IN ABOVE   ACTIVITIES  ADD LIMEWATER  MIX  LIMEWATER TURNS

IMEWATER TO EGGSHELL.   COMPARE BUBBLING ACTION OF VINEGAR ON SHELL AND SIMILAR

XIDE.  PUT SOAKED LIMA  BEANS ON WET COTTON IN GAS GENERATOR  LET STAND
TO LIMEWATER, TURNS     MILKY.
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0205145007	DESCRIBE BUBBLES OF GAS GIVEN OFF AS CARBON DIOXIDE.
0206145	ENERGY TRANSFORMATION (CARBON DIOXIDE)
0206145001	DEMONSTRATE THAT CARBON DIOXIDE IS FORMED DURING THE SAME AC WITH LIMEWATER, CAUSING THE LIMEWATER TO TURN MILKY.

EN OFF AS CARBON DIOXIDE.

ON DIOXIDE)

XIDE IS FORMED DURING THE SAME ACTIVITY, BY MISSING THE GAS TRAPPED IN THE JAR
LIMEWATER TO TURN MILKY.

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0204150        ENERGY TRANSFORMATION (CHEMICAL)

0204150001     KNOW THAT IN CHEMICAL CHANGE, ATOMS REACT TO PRODUCE A    CHANG



0205150        ENERGY TRANSFORMATION (CHEMICAL)

0205150001     KNOW THAT IN CHEMICAL AND PHYSICAL CHANGE, THE TOTAL      AMOUN

0205150002     STATE THE CONCEPT THAT IN AN ORDINARY CHEMICAL REACTION  MATTE

0205150003     GAIN AN UNDERSTANDING OF CHEMICAL PROPERTIES AND INFER   THE E

0205150004     KNOW THAT CHEMICAL PROPERTIES HELP IN IDENTIFYING A      SUBST

0205150005     KNOW THAT WORD EQUATIONS HELP TO DESCRIBE A CHEMICAL     REACT

0205150006     ESTABLISH THE CHEMICAL TEST FOR DISTINGUISHING ACIDS,    BASES

0205150007     DISCOVER THAT LITMUS PAPER IS A CHEMICAL INDICATOR.

0205150008     IDENTIFY SODA AS NEUTRAL, LIMEWATER AS BASIC, LEMON      JUICE

0205150009     BY DEMONSTRATION CHOOSE WHAT KIND OF SOLUTION CAUSES     PINK

0205150010     DEMONSTRATE CHANGING COLOR OF LITMUS PAPER   PLACE       VINEG
               PLACE AMMONIA ON PINK AND BLUE LITMUS.  PINK TURNS BLUE.

0205150011     DEMONSTRATE TEST FOR ACIDS AND BASES.  PLACE SODA,       LIMEW
               CHANGE BLUE, LIMEWATER TURNS PINK TO BLUE, LEMON TURN    BLUE

0205150012     KNOW THAT CHEMICAL REACTIONS ARE A DEPENDABLE MEANS OF   TESTI
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CAL)

, ATOMS REACT TO PRODUCE A CHANGE IN THE MOLECULES.

CAL)

YSICAL CHANGE, THE TOTAL AMOUNT OF MATTER REMAINS UNCHANGED.

ORDINARY CHEMICAL REACTION MATTER IS NEITHER LOST OR GAINED.

MICAL PROPERTIES AND INFER THE EXISTENCE OF MOLECULES.

S HELP IN IDENTIFYING A SUBSTANCE.

P TO DESCRIBE A CHEMICAL REACTION.

FOR DISTINGUISHING ACIDS, BASES, AND NEUTRAL SUBSTANCES.

S A CHEMICAL INDICATOR.

MEWATER AS BASIC, LEMON JUICE AS ACIDIC.

KIND OF SOLUTION CAUSES PINK LITMUS TO TURN PINK.

F LITMUS PAPER PLACE VINEGAR ON PINK AND BLUE LITMUS. BLUE TURNS PINK
UE LITMUS. PINK TURNS BLUE.

ND BASES. PLACE SODA, LIMEWATER, LEMON JUICE ON RED, BLUE LITMUS. SODA WON'T
PINK TO BLUE, LEMON TURN BLUE TO PINK.

ARE A DEPENDABLE MEANS OF TESTING THE PRESENCE OF A SUBSTANCE.

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0205150013     EXPERIENCE SOME TECHNIQUES A CHEMIST USES IN IDENTIFYING UNKNOWN

0205150014     GAIN NEW AND DEEPER UNDERSTANDING OF THE CHEMIST'S 100   BUILDING

0205150015     KNOW THAT NO ATOMS ARE GAINED OR LOST IN A CHEMICAL      CHANGE.

0205150016     KNOW THAT IN CHEMICAL CHANGE, MATTER IS NOT DESTROYED,   ONLY CHAN

0205150017     GIVEN A CHEMICAL CHANGE, SUGGEST VARIABLES THAT COULD    AFFECT TH

0205150018     GIVEN DESCRIPTION OF A PHYSICAL OR CHEMICAL CHANGE,      PREDICT E
               CHANGE.
0205150019     GIVEN A SERIES OF SITUATIONS IN WHICH CHANGE HAS TAKEN   PLACE, DE
               CHANGES.
0205150020     WHEN PERFORMING AN EXPERIMENT, RECOGNIZE AND RECORD      SIGNS OF

0205150021     CONSTRUCT GAS GENERATOR FROM PAPER MILK CARTON SO THAT   SIDES ARE

0205150022     DESCRIBE EGGSHELL AND WHITE SUBSTANCE AS CALCIUM         CARBONATE
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A CHEMIST USES IN IDENTIFYING UNKNOWN SUBSTANCES.

ANDING OF THE CHEMIST'S 100 BUILDING BLOCKS.

ED OR LOST IN A CHEMICAL CHANGE.

E, MATTER IS NOT DESTROYED, ONLY CHANGED FROM ONE FORM TO ANOTHER.

GGEST VARIABLES THAT COULD AFFECT THE CHANGE.

ICAL OR CHEMICAL CHANGE, PREDICT EFFECT OF A GIVEN MANIPULATED VARIABLE ON THAT

S IN WHICH CHANGE HAS TAKEN PLACE, DESCRIBE THE PHYSICAL CHANGES AND THE CHEMICAL

NT, RECOGNIZE AND RECORD SIGNS OF CHEMICAL CHANGE.

M PAPER MILK CARTON SO THAT SIDES ARE FLEXIBLE AND CAN BE SQUEEZED.

SUBSTANCE AS CALCIUM CARBONATE.

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0205155         ENERGY TRANSFORMATION (COMBUSTION)

0205155001      DEVELOP INSIGHT INTO COMBUSTION AS ANALOGOUS TO CERTAIN
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STION AS ANALOGOUS TO CERTAIN KINDS OF OXIDATION---FAST OR SLOW.

0204160	ENERGY TRANSFORMATION (COMPOUNDS)
0204160001	KNOW THAT A COMPOUND IS MADE UP OF MORE THAN ONE EL
0204160002	COMBINE TWO COMPOUNDS WITH DIFFERENT PROPERTIES IN ORDER TO
0205160	ENERGY TRANSFORMATION (COMPOUNDS)
0205160001	CHOOSE THE TYPE OF COMPOUNDS FOUND IN THE GREATEST NU
0205160002	KNOW THAT COMPOUNDS CAN BE BROKEN DOWN INTO THE ELEMENTS OF
0205160003	KNOW THAT COMPOUNDS MAY BE GROUPED BY THEIR CHEMICAL PR
0205160004	DEMONSTRATE THE BREAKING DOWN OF A COMPOUND INTO ITS EL
0206160	ENERGY TRANSFORMATION (COMPOUNDS)
0206160001	KNOW THAT ENERGY IS NEEDED TO SEPARATE METALS FROM THEIR CO

OMPOUNDS)

MADE UP OF MORE THAN ONE ELEMENT.

TH DIFFERENT PROPERTIES IN ORDER TO CREATE A THIRD COMPOUND WITH NEW PROPERTIES.

OMPOUNDS)

UNDS FOUND IN THE GREATEST NUMBER IN THE EARTH'S CRUST.

BE BROKEN DOWN INTO THE ELEMENTS OF WHICH THEY ARE COMPOSED.

BE GROUPED BY THEIR CHEMICAL PROPERTIES.

DOWN OF A COMPOUND INTO ITS ELEMENTS USING MERCURIC OXIDE.

OMPOUNDS)

ED TO SEPARATE METALS FROM THEIR COMPOUNDS.

0206165 ENERGY TRANSFORMATION (COMPOUNDS AND MIXTURES)

0206165001 FROM A GIVEN DEFINITION OR DESCRIPTION OF A SUBSTANCE, RECO

R DESCRIPTION OF A SUBSTANCE, RECOGNIZE SUBSTANCE AS EITHER A COMPOUND OR A MIXTURE.

0204170	ENERGY TRANSFORMATION (CONDENSATION)
0204170001	KNOW THAT WATER VAPOR IN THE AIR CAN BE CHANGED TO WATER.
0204170002	KNOW THAT TO CONDENSE WATER VAPOR, HEAT ENERGY MUST BE TAKEN A
0204170003	KNOW THAT WATER VAPOR CONDENSES WHEN COOLED.
0204170004	DEMONSTRATE THAT WATER IS IN THE AIR, BY CAUSING MOISTURE WITH ICE WATER.
0204170005	DEMONSTRATE THAT WATER VAPOR IS FORMED INSIDE AND AT THE TOP OF AIR, WHEN THE GLASS CHAMBER IS PLACED IN A WARM LOCATIO

E AIR CAN BE CHANGED TO WATER.

VAPOR, HEAT ENERGY MUST BE TAKEN AWAY.

NSES WHEN COOLED.

N THE AIR, BY CAUSING MOISTURE TO COLLECT ON THE SURFACE OF A SHINY CAN FILLED

R IS FORMED INSIDE AND AT THE TOP OF A SEALED GLASS CHAMBER THAT CONTAINS WATER AND
IS PLACED IN A WARM LOCATION.

0206175 ENERGY TRANSFORMATION (COPPER OXIDE)

0206175001 THE CHILD WILL DEMONSTRATE THAT COPPER CAN BE OBTAINED FROM
TONGS IN A BUNSEN BURNER, CAUSING SOME COPPER TO FORM ON THE

AT COPPER CAN BE OBTAINED   FROM COPPER OXIDE, BY HEATING COPPER OXIDE POWDER ON
SING SOME COPPER TO FORM ON THE TONGS.

0204180	ENERGY TRANSFORMATION (DECOMPOSITION)
0204180001	KNOW THAT THROUGH THE ACTION OF BACTERIA AND OTHER ORGANI TO THE ENVIRONMENT.
0204180002	EXPLAIN HOW BACTERIA AND FUNGI BREAK DOWN ONCE LIVING THINGS

OF BACTERIA AND OTHER ORGANISMS, THE MATTER OF ONCE-LIVING THINGS IS RETURNED

NGT BREAK DOWN ONCE LIVING THINGS AND RETURN THEM TO THE ENVIRONMENT.

0203185	ENERGY TRANSFORMATION (ELECTRIC)
0203185001	KNOW THAT ELECTRIC ENERGY CAN MAKE THINGS MOVE.
0206185	ENERGY TRANSFORMATION (ELECTRIC)
0206185001	DEMONSTRATE SEPARATION OF COMPOUND WITH ELECTRIC CURRENT USING TW STEEL SPOONS TO WIRE, PUT IN COPPER SULFATE SOLUTION.

KE THINGS MOVE.

ND WITH ELECTRIC CURRENT USING TWO 1-1/2 VOLT DRY CELLS, ATTACH TWO STAINLESS
PPER SULFATE SOLUTION.

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0203190          ENERGY TRANSFORMATION (ELEMENTS)

0203190001       DEMONSTRATE AND ANSWER QUESTIONS ABOUT ELEMENT BEING     MADE ONL


0204190          ENERGY TRANSFORMATION (ELEMENTS)

0204190001       KNOW THAT AN ELEMENT IS MADE UP OF ONE KIND OF ATOM.

0204190002       KNOW THAT THE ATOMS IN AN ELEMENT ARE ALIKE.  THE ATOMS  IN A COM

0204190003       STATE THE DIFFERENCES IN ELEMENTS AND COMPOUNDS.


0205190          ENERGY TRANSFORMATION (ELEMENTS)

0205190001       KNOW THAT COMPOUNDS ARE BUILT UP FROM ELEMENTS.

0205190002       KNOW THAT ALL MATTER IS MADE UP OF ELEMENTS.  ALL MATTER IS MADE
                 PARTICLES.

0205190003       CHOOSE THE CORRECT NUMBER OF ELEMENTS IN A MULTIPLE      CHOICE Q


0206190          ENERGY TRANSFORMATION (ELEMENTS)

0206190001       CLASSIFY COMMON SUBSTANCES AS ELEMENTS OR COMPOUNDS      WHEN GIV

0206190002       APPLY INFORMATION OBTAINED FROM SIMPLE EXPERIMENTAL      TESTS TO
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TS)

ONS ABOUT ELEMENT BEING MADE ONLY OF ITSELF.

TS)

UP OF ONE KIND OF ATOM.

MENT ARE ALIKE. THE ATOMS IN A COMPOUND ARE DIFFERENT.

ENTS AND COMPOUNDS.

TS)

UP FROM ELEMENTS.

UP OF ELEMENTS. ALL MATTER IS MADE UP OF ATOMS. ALL MATTER IS MADE UP OF

ELEMENTS IN A MULTIPLE CHOICE QUESTION.

TS)

ELEMENTS OR COMPOUNDS WHEN GIVEN SYMBOLS, FORMULAS, OR MODELS.

OM SIMPLE EXPERIMENTAL TESTS TO IDENTIFY ELEMENTS.

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0201195        ENERGY TRANSFORMATION (EVAPORATION)

0201195001     KNOW THAT HEAT FROM THE SUN HELPS TO CHANGE WATER TO     WATER VAP


0201195002     DEMONSTRATE EVAPORATION, BY PLACING DROPS OF WATER INTO  AN OPEN G
               ONE DAY.

0201195003     DEMONSTRATE THAT HEAT FROM THE SUN HELPS TO CHANGE WATER TO WATER
               GLASS OF WATER IN SUNLIGHT AND AN EQUAL GLASS OF WATER   IN A DARK



0202195        ENERGY TRANSFORMATION (EVAPORATION)

0202195001     CONSTRUCT A HYPOTHESIS THAT THE MOLECULES MUST HAVE      PASSED IN


0202195002     KNOW THAT WET MATERIALS DRY WHEN WATER EVAPORATES FROM   THEM.


0202195003     DEMONSTRATE THAT WET MATERIALS DRY WHEN WATER EVAPORATES FROM THEM



0203195        ENERGY TRANSFORMATION (EVAPORATION)

0203195001     KNOW THAT THE CHANGE FROM LIQUID TO GAS IS CALLED        EVAPORATI


0203195002     NAME, AS EVAPORATION, THE PROCESS OF THE PERFUME         DISAPPEAR


0203195003     DEMONSTRATE THAT LIQUID CHANGES TO A GAS, BY PLACING A   DROP OF P
               (EVAPORATE) WHILE THE ODOR REMAINS.

0203195004     KNOW THAT A SOLID CAN CHANGE INTO A GAS WITHOUT CHANGING FIRST TO


0203195005     DESCRIBE THAT A SOLID CAN CHANGE INTO A GAS WITHOUT      CHANGING
               MOTHBALLS GET SMALLER OVER A PERIOD OF TIME.
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)
TO CHANGE WATER TO WATER VAPOR WHICH GOES INTO THE AIR.

G DROPS OF WATER INTO AN OPEN GLASS AND OBSERVING THE CHANGE IN QUANTITY AFTER

HELPS TO CHANGE WATER TO WATER VAPOR WHICH GOES INTO THE AIR, BY PLACING ONE
EQUAL GLASS OF WATER IN A DARK OR SHADED PLACE.

)

LECULES MUST HAVE PASSED INTO THE AIR WHEN WET MATERIALS DRIED.

ATER EVAPORATES FROM THEM.

WHEN WATER EVAPORATES FROM THEM.

)

O GAS IS CALLED EVAPORATION.

OF THE PERFUME DISAPPEARING AS IT CHANGES FROM A LIQUID TO A GAS.

A GAS, BY PLACING A DROP OF PERFUME INTO A BOTTLE, CAUSING IT TO DISAPPEAR
S.

A GAS WITHOUT CHANGING FIRST TO A LIQUID.

INTO A GAS WITHOUT CHANGING FIRST TO A LIQUID, BY OBSERVING THAT BITS OF
D OF TIME.

0204195	ENERGY TRANSFORMATION (EVAPORATION)
0204195001	KNOW THAT WATER EVAPORATES TO BECOME A GAS, WATER VAPOR.
0204195002	UNDERSTAND HOW EVAPORATION IS EXPLAINED BY THE MOLECULAR THEORY.
0204195003	DESCRIBE HOW A DROP OF WATER EVAPORATES AS IT CHANGES FROM LI

TO BECOME A GAS, WATER VAPOR.

IS EXPLAINED BY THE MOLECULAR THEORY.

R EVAPORATES AS IT CHANGES   FROM LIQUID TO WATER VAPOR, DUE TO A TEMPERATURE CHANGE.

0203200	ENERGY TRANSFORMATION (FOOD)
0203200001	INFER THAT ENERGY FROM FOOD IS RESPONSIBLE FOR GROWTH AND THE
0203200002	DEMONSTRATE THAT FOOD IS A FUEL BY USE OF BUTTER CANDLE.
0203200003	DEMONSTRATE THAT FOOD HAS ENERGY, BY BURNING A PAT OF BUTTER T
0203200004	KNOW THAT FOOD HAS ENERGY.

S RESPONSIBLE FOR GROWTH AND THE ABILITY TO WORK.

FL BY USE OF BUTTER CANDLE.

RGY, BY BURNING A PAT OF BUTTER THAT HAS BEEN FASHIONED INTO A CANDLE.

0206205	ENERGY TRANSFORMATION (FORMS)
0206205001	EXPLAIN WHAT FORM OF ENERGY (CHEMICAL, MECHANICAL, HEAT, LIGHT, SOU (KINETIC OR POTENTIAL) DIFFERENT OBJECTS HAVE, USE, OR PRODUCE TH
0206205002	FROM LIST OF COMMON OBJECTS, RECOGNIZE THOSE WHICH ARE IN A STATE WHICH ARE IN A STATE OF KINETIC ENERGY (ENERGY OF MOTION).

HEMICAL, MECHANICAL, HEAT, LIGHT, SOUND, ELECTRICAL) AND/OR WHAT STATE OF ENERGY
NT OBJECTS HAVE, USE, OR PRODUCE THAT MAKE IT POSSIBLE FOR THEM TO DO WORK.

ECOGNIZE THOSE WHICH ARE IN A STATE OF POTENTIAL ENERGY (STORED ENERGY) AND THOS
C ENERGY (ENERGY OF MOTION).

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0203210       ENERGY TRANSFORMATION (HEAT)

0203210001    KNOW THAT HEAT IS A FORM OF ENERGY.


0203210002    GIVE ONE EXAMPLE OF HEAT ENERGY DOING WORK.


0203210003    SHOW THAT HEATED AIR MOVES BY HOLDING PAPER STRIPS       OVER TH


0203210004    DEMONSTRATE THAT HEAT IS A FORM OF ENERGY, BY USING      CANDLES


0203210005    EXPLAIN HOW AN EXPERIMENT SHOWS THAT HEAT IS A FORM OF   ENERGY.


0203210006    GIVEN OBJECTS, PREDICT WHICH OBJECT IS A HEAT CONDUCTOR  AND WHI
              AND TEST YOUR PREDICTIONS.

0203210007    DEMONSTRATE HOW APPLICATION OF HEAT BREAKS UP MOLECULE   OF SUGA



0204210       ENERGY TRANSFORMATION (HEAT)

0204210001    DESCRIBE THE STATE TO WHICH MATTER WILL CHANGE IF HEAT   ENERGY
              CONTRACT.

0204210002    GIVEN TWO STATES OF MATTER, TELL IF HEAT MUST BE ADDED   OR TAKE
              AND GIVE THE NAME OF THE PROCESS.

0204210003    GIVEN DESCRIPTION OR ILLUSTRATION OF A CHANGE OF STATE   OF LIQU
              FREEZING POINT OR IF IT WAS AT BOILING POINT.



0205210       ENERGY TRANSFORMATION (HEAT)

0205210001    KNOW THAT HEAT IS ONE FORM OF ENERGY THAT CAUSES MOTION  OF MOLE


0205210002    READ A THERMOMETER TO THE NEAREST DEGREE IN EITHER       FAHRENH
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ERGY.

Y DOING WORK.

HOLDING PAPER STRIPS OVER THE RADIATOR.

M OF ENERGY, BY USING CANDLES BELOW AN ALUMINUM FOIL PINWHEEL TO REVOLVER.

S THAT HEAT IS A FORM OF ENERGY.

BJECT IS A HEAT CONDUCTOR AND WHICH IS NOT, EXPLAIN WHY YOU PREDICTED IN THAT WAY.

HEAT BREAKS UP MOLECULE OF SUGAR.

TTER WILL CHANGE IF HEAT ENERGY IS ADDED OR TAKEN AWAY, USING THE TERMS EXPAND OR

LL IF HEAT MUST BE ADDED OR TAKEN AWAY TO GO FROM THE FIRST TO THE SECOND STATE
SS.

TION OF A CHANGE OF STATE OF LIQUID, EXPLAIN IF TEMPERATURE OF SUBSTANCE WAS AT
BOILING POINT.

ENERGY THAT CAUSES MOTION OF MOLECULES---AND OF GROUPS OF MOLECULES.

REST DEGREE IN EITHER FAHRENHEIT SCALE OR THE CENTIGRADE SCALE.

0205210003 DEMONSTRATE THE BOILING POINTS OF VARIOUS WATER SOLUTION

0205210004 IDENTIFY THE BOILING AND FREEZING POINTS OF WATER ON BOTH THE

0205210005 DESCRIBE HOW HEAT AFFECTS THE AMOUNT OF SOLID SUBSTANCE THAT WIL

0205210006 GIVEN TWO STATES OF MATTER, EXPLAIN WHAT OCCURS WHEN HEAT IS
TO THE MOLECULES BETWEEN THE FIRST AND SECOND STATE AND GIVE THE

0205210007 GIVEN A SUBSTANCE, DESCRIBE EFFECT THAT HEAT HAS ON THE VOLUME O
ACTION OR MOTION.

0206210 ENERGY TRANSFORMATION (HEAT)

0206210001 KNOW THAT THE NATURE OF HEAT HAS ENABLED MAN TO DEVELOP WAYS TO

0206210002 KNOW THAT HEAT IS THE KINETIC ENERGY OF MOLECULES.

0206210003 KNOW THAT HEAT IS TRANSFERRED FROM ONE PLACE TO ANOTHER BY MOVIN

0206210004 KNOW THAT HEAT ENERGY IS TRANSFERRED FROM MOLECULE TO MOLECULE

0206210005 THE CHILD WILL DESCRIBE THAT THE VACUUM FLASK ACTS AS AN INSULATO
HEAT.

0206210006 KNOW THAT A SUBSTANCE BECOMES COOLER AS A RESULT OF TRANSFER

0206210007 KNOW THAT HEAT GIVES GREATER KINETIC ENERGY TO MOLECULE

0206210008 TELL DIFFERENCE BETWEEN HEAT AND TEMPERATURE. DISCUSS HEAT IN
AND TEMPERATURE AS MEANS OF MEASURING HOT AND COLD.

OINTS OF VARIOUS WATER SOLUTIONS.

FREEZING POINTS OF WATER ON BOTH THE FAHRENHEIT SCALE AND THE CENTIGRADE SCALE.

THE AMOUNT OF SOLID SUBSTANCE THAT WILL DISSOLVE IN WATER.

R, EXPLAIN WHAT OCCURS WHEN HEAT IS ADDED OR TAKEN AWAY. EXPLAIN WHAT HAS HAPPENED
THE FIRST AND SECOND STATE AND GIVE THE NAME OF THE PROCESS.

BE EFFECT THAT HEAT HAS ON THE VOLUME OF SUBSTANCE AND ON THE SPEED OF THE MOLECULAR

AT)

EAT HAS ENABLED MAN TO DEVELOP WAYS TO MODIFY AND CONTROL HIS ENVIRONMENT.

ETIC ENERGY OF MOLECULES.

RRED FROM ONE PLACE TO ANOTHER BY MOVING MOLECULES.

TRANSFERRED FROM MOLECULE TO MOLECULE IT CANNOT BE TRANSFERRED IN A VACUUM.

HAT THE VACUUM FLASK ACTS AS AN INSULATOR, WHICH SLOW DOWN OR PREVENTS THE TRAVEL OF

OMES COOLER AS A RESULT OF TRANSFER OF ITS HEAT ENERGY,

TER KINETIC ENERGY TO MOLECULES.

EAT AND TEMPERATURE. DISCUSS HEAT IN TERMS OF NUMBER AND SPEED OF MOLECULES IN MOTION
OF MEASURING HOT AND COLD.

0206215	ENERGY TRANSFORMATION (INTERNAL COMBUSTION)
0206215001	GIVEN DRAWINGS SHOWING MOVEMENT OF AIR OR WATER MOLECULES, PRODUCTION OF KINETIC ENERGY.
0206215002	GIVEN DESCRIPTION OF MACHINE ACTIVITIES THAT SHOW DIFFERENT F ELECTRICAL), MATCH EACH MACHINE ACTIVITY WITH FORM OF ENERGY IT U
0206215003	GIVEN DESCRIPTION OF AN INTERNAL COMBUSTION ENGINE, RECOGNIZE W MECHANICAL ENERGY IS BEING USED OR PRODUCED.

EMENT OF AIR OR WATER MOLECULES, RECOGNIZE WHICH ILLUSTRATES THE GREATEST
GY.

NE ACTIVITIES THAT SHOW DIFFERENT FORMS OF ENERGY (CHEMICAL, MECHANICAL, OR
CHINE ACTIVITY WITH FORM OF ENERGY IT USES OR PRODUCES.

TERNAL COMBUSTION ENGINE, RECOGNIZE WHERE POTENTIAL, KINETIC, CHEMICAL, AND
USED OR PRODUCED.

0206220	ENERGY TRANSFORMATION (KINETIC)
0206220001	KNOW THAT MOLECULES MAY BE GIVEN KINETIC ENERGY IN A CHEMICAL
0206220002	KNOW THAT AN INCREASE IN KINETIC ENERGY CAN PRODUCE AN UNBALANC
0206220003	KNOW THAT ACTION AND REACTION, RESULTING FROM KINETIC ENERGY G FORCE.
0206220004	KNOW THAT ROCKETS AND JETS OPERATE ON THE SAME PRINCIPL INTO FORCE.
0206220005	KNOW THAT A TRANSFER OF ELECTRONS FROM ONE OBJECT TO ANOTHER ELECTRONS MOVE, THEY HAVE KINETIC ENERGY.
0206220006	DESCRIBE RESULTS OF KINETIC ENERGY ACTIVITY. DUE TO MOLECULE AS GAS IS COMPRESSED.

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Y BE GIVEN KINETIC ENERGY IN A     CHEMICAL CHANGE.

IN KINETIC ENERGY CAN PRODUCE AN   UNBALANCED FORCE.

EACTION, RESULTING FROM KINETIC    ENERGY GIVEN TO MOLECULES CAN PRODUCE AN UNBALANCED

JETS OPERATE ON THE SAME           PRINCIPLE, BUT ROCKETS CONVERTS KINETIC ENERGY DIRECTL

F ELECTRONS FROM ONE OBJECT TO     ANOTHER GIVES THEM POTENTIAL ENERGY   WHEN THE
AVE KINETIC ENERGY.

NETIC ENERGY ACTIVITY.  DUE TO     MOLECULES BOUNCING OFF ONE ANOTHER WITH GREATER ENERGY
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0203225	ENERGY TRANSFORMATION (LIGHT AND SOUND)
0203225001	IDENTIFY DEFINITIONS OF LIGHTS AND SOUND AND HOW THEY TRAVEL. (
0204225	ENERGY TRANSFORMATION (LIGHT AND SOUND)
0204225001	STATE THE DIFFERENCES IN LIGHT AND SOUND AS FORMS OF ENERGY.
0206225	ENERGY TRANSFORMATION (LIGHT AND SOUND)
0206225001	KNOW THAT THE DIRECTION OF A MOVING OBJECT CAN BE DETERMINED

GHT AND SOUND)

IGHTS AND SOUND AND HOW THEY TRAVEL. (I.E., SPEED THROUGH AIR, WATER, SOLIDS, ETC.)

GHT AND SOUND)

LIGHT AND SOUND AS FORMS OF ENERGY.

GHT AND SOUND)

F A MOVING OBJECT CAN BE DETERMINED BY WAVELENGTHS OF LIGHT OR SOUND.

0203230	ENERGY TRANSFORMATION (LIQUID)
0203230001	KNOW THAT LIQUID CHANGES TO A GAS.
0206230	ENERGY TRANSFORMATION (LIQUID)
0206230001	DEMONSTRATE MOTION OF INK PARTICLES ADD FEW DROPS OF INK IN G WATER.
0206230002	THE CHILD WILL DESCRIBE EXAMPLES OF BERNOULLI'S DISCOVERY PRESSURE WITHIN THE FLUID.

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IQUID)
 TO A GAS.


IQUID)
K PARTICLES   ADD FEW DROPS OF   INK IN GLASS OF WATER.  INK WILL SPREAD THROUGHOUT

EXAMPLES OF BERNOULLI'S          DISCOVERY THAT THE FASTER A FLUID MOVES THE LOWER THE
D.
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0206235	ENERGY TRANSFORMATION (MASS)
0206235001	TELL THE DIFFERENCE BETWEEN OPERATIONAL DEFINITIONS OF WEIGH
0206235002	DESCRIBE HOW MASS, VOLUME, AND DENSITY ARE RELATED WHEN GIVEN

N OPERATIONAL DEFINITIONS OF WEIGHT AND OF MASS.

AND DENSITY ARE RELATED WHEN GIVEN INFORMATION ON MASS AND VOLUME OF VARIOUS OBJECTS.

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0203240        ENERGY TRANSFORMATION (MIXTURE)

0203240001     KNOW THAT A MIXTURE CONTAINS SUBSTANCES THAT DO NOT     CHANGE WHEN M

0203240002     DESCRIBE THAT A MIXTURE CONTAINS SUBSTANCES THAT DO NOT  CHANGE WHEN M
               FILINGS AND THEN OBSERVING THE MIXTURE WITH A MAGNIFYING GLASS.

0203240003     KNOW THAT A MIXTURE OF SUGAR AND IRON FILINGS CAN BE     SEPARATED INT
               MAGNET TO REMOVE THE IRON FILINGS.

0203240004     DEMONSTRATE THAT A MIXTURE OF SUGAR AND IRON FILINGS CAN BE SEPARATED
               MAGNET TO REMOVE THE IRON FILINGS.

0203240005     KNOW THAT A MIXTURE OF SUGAR AND SAND CAN BE CHANGED     INTO A NEW MI
               DISSOLVING THE SUGAR, AND LEAVING THE SAND.

0203240006     DEMONSTRATE THAT A MIXTURE OF SUGAR AND SAND CAN BE      CHANGED INTO
               WATER, DISSOLVING THE SUGAR, AND LEAVING THE SAND.

0203240007     KNOW HOW TO SEPARATE LIQUID FROM SAND, BY POURING        THROUGH THE M

0203240008     DEMONSTRATE HOW TO SEPARATE THE LIQUID FROM THE SAND,    BY POURING TH
               LEAVING THE SAND.
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NS SUBSTANCES THAT DO NOT      CHANGE WHEN MIXED TOGETHER.

NTAINS SUBSTANCES THAT DO NOT  CHANGE WHEN MIXED TOGETHER, BY MIXING SUGAR AND IRON
 THE MIXTURE WITH A MAGNIFYING GLASS.

AR AND IRON FILINGS CAN BE     SEPARATED INTO THE ORIGINAL SUBSTANCES, BY USING A
FILINGS.

 OF SUGAR AND IRON FILINGS CAN BE SEPARATED INTO THE ORIGINAL SUBSTANCES, BY USING A
FILINGS.

AR AND SAND CAN BE CHANGED     INTO A NEW MIXTURE BY PUTTING THE MIXTURE IN WATER,
LEAVING THE SAND.

 OF SUGAR AND SAND CAN BE      CHANGED INTO A NEW MIXTURE BY PUTTING THE MIXTURE IN
R, AND LEAVING THE SAND.

D FROM SAND, BY POURING        THROUGH THE MILK CARTON FILTER, LEAVING THE SAND.

E THE LIQUID FROM THE SAND,    BY POURING THE LIQUID THROUGH THE MILK CARTON FILTER,
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0203245	ENERGY TRANSFORMATION (MOLECULAR)
0203245001	KNOW THAT ODOR MUST BE DUE TO SOME OF THE TINIEST PARTS OF MOTHBAL NOSE.
0203245002	DESCRIBE THAT THE ODOR MUST BE DUE TO SOME OF THE TINIEST PA MOTHBALLS TO HIS NOSE.
0203245003	DEMONSTRATE AND/OR ANSWER QUESTIONS ABOUT SUGAR AS A COMPOUND A
0203245004	DEMONSTRATE AND/OR ANSWER QUESTIONS ABOUT THE BREAK UP OF A MOLEC
0204245	ENERGY TRANSFORMATION (MOLECULAR)
0204245001	KNOW THAT MATTER IS MOLECULAR IN NATURE.
0204245002	KNOW THAT THE SPACE BETWEEN MOLECULES INCREASES AS A SUBSTANCE
0204245003	KNOW THAT MOLECULES CAN BE MOVED AROUND TO FORM COMPOUNDS
0204245004	KNOW THAT ENERGY IS RELEASED DURING A MOLECULAR CHANGE.
0204245005	KNOW THAT A LOSS OR GAIN OR ENERGY AFFECTS MOLECULAR MOTION.
0204245006	KNOW THAT A LOSS OR GAIN IN ENERGY AFFECTS MOLECULAR MOTION.
0204245007	KNOW THAT MOLECULES OF SUBSTANCES INTERACT.
0204245008	KNOW THAT AIR AND WATER CANNOT OCCUPY THE SAME SPACE AT THE SAME T
0204245009	THROUGH THE USE OF MODELS, DISCOVER THAT DIFFERENT COMPOUNDS MOLECULES.

L SOME OF THE TINIEST PARTS OF MOTHBALLS SPREADING FROM THE SOLID MOTHBALLS TO HIS

R E DUE TO SOME OF THE TINIEST PARTS OF MOTHBALLS SPREADING FROM THE SOLID

N STIONS ABOUT SUGAR AS A COMPOUND AND ITS THREE ELEMENTS.

U STIONS ABOUT THE BREAK UP OF A MOLECULE OF SUGAR.

AR)

IN NATURE.

E LECULES INCREASES AS A SUBSTANCE EXPANDS.

D VED AROUND TO FORM COMPOUNDS OR TO OBTAIN ELEMENTS.

DURING A MOLECULAR CHANGE.

NERGY AFFECTS MOLECULAR MOTION.

NERGY AFFECTS MOLECULAR MOTION.

NCES INTERACT.

I T OCCUPY THE SAME SPACE AT THE SAME TIME.

H SCOVER THAT DIFFERENT COMPOUNDS HAVE DIFFERENT NUMBERS OF ATOMS IN THEIR

0205245	ENERGY TRANSFORMATION (MOLECULAR)
0205245001	KNOW THAT A MOLECULE IS THE SMALLEST PARTICLE OF A SUBSTAN
0205245002	DEMONSTRATE HOW MOLECULES OF PERFUME CAN PASS THROUGH RUBBER PUSH IN CLEAN JAR FOR 15 MINUTES. ODOR IS IN JAR.
0205245003	DEMONSTRATE FORMATION OF CRYSTALS. DISSOLVE 2/3 CUP OF SUGAR I ALLOW LIQUID TO COOL. CRYSTALS FORM ON BOLT.
0205245004	CONSTRUCT MODEL OF DRY ICE ROCKET ENGINE USE PINT MILK CARTON,
0205245005	DEMONSTRATE MILK CARTON ENGINE IT REVOLVES AS DRY ICE CONTACTS THROUGH HOLE IN ONE DIRECTION. CARTON REVOLVES IN ANOTHER
0206245	ENERGY TRANSFORMATION (MOLECULAR)
0206245001	KNOW THAT WHEN A SUBSTANCE BECOMES WARMER, THE MOTION OF ITS MOL
0206245002	KNOW THAT THE ENERGY OF MOVING MOLECULES OF AIR AND WATER P
0206245003	KNOW THAT A CHANGE OF STATE INCREASES OR DECREASES THE KINETIC
0206245004	DESCRIBE HOW KINETIC ENERGY IS USED WHEN BOILING WATER BLOWS T
0206245005	DEMONSTRATE MOVING MOLECULES DO WORK. PLACE WATER IN TEST TU CAUSING CORK TO BE BLOWN OUT.
0206245006	DESCRIBE HYDROGEN GAS. COLLECT FROM WATER WITH HOFFMAN APPARAT LIGHTED MATCH BROUGHT TO MOUTH OF TUBE.

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ULAR)
SMALLEST PARTICLE OF A       SUBSTANCE WHICH RETAINS THE PROPERTIES OF THE SUBSTANCE.

 PERFUME CAN PASS THROUGH    RUBBER BALLOON.  PLACE DROPS IN BALLOON, INFLATE, SEAL,
ITES.  ODOR IS IN JAR.

STALS.  DISSOLVE 2/3 CUP OF  SUGAR IN 1/4 CUP BOILING WATER.  SUSPEND BOLT IN LIQUID
ALS FORM ON BOLT.

OCKET ENGINE   USE PINT MILK CARTON, THREAD, TOOTHPICK, CLAY, WATER, DRY ICE.

NE   IT REVOLVES AS DRY ICE  CONTACTS WATER.  PRODUCES CARBON DIOXIDE.  IT ESCAPES
N.  CARTON REVOLVES IN       ANOTHER DIRECTION.


ULAR)
ECOMES WARMER, THE MOTION OF ITS MOLECULES INCREASES.

NG MOLECULES OF AIR AND      WATER PROVIDE A FORCE THAT CAN BE HARNESSED TO DO WORK.

INCREASES OR DECREASES THE   KINETIC ENERGY OF MOLECULES OF MATTER.

IS USED WHEN BOILING WATER   BLOWS THE CORK FROM THE TEST TUBE.

 DO WORK.  PLACE WATER IN    TEST TUBE, FIT GREASED CORK IN PLACE AND HEAT TO BOIL,
.

ECT FROM WATER WITH HOFFMAN  APPARATUS.  OBSERVE THAT GLASS EXPLODES WITH A POP WHEN
TH OF TUBE.
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0206250	ENERGY TRANSFORMATION (NUCLEAR)
0206250001	KNOW THAT IN NUCLEAR REACTIONS, A LOSS OF MATTER IS A GAIN IN REMAINS UNCHANGED.
0206250002	KNOW THAT ENERGY CAN BE RELEASED BY FISSION OF ATOMIC NUCLEI
0206250003	KNOW THAT A CHAIN REACTION DEPENDS ON THE QUANTITY OF URANIUM
0206250004	KNOW THAT NEUTRONS, WHEN TRAVELING AT THE RIGHT SPEED, CAUSE FI NUCLEI CONTROLS THE RATE OF FISSION.
0206250005	KNOW THAT NUCLEAR ENERGY CAN BE HARNESSED TO MACHINES TO DEVELOP
0206250006	KNOW THAT NUCLEAR ENERGY PRODUCES GREAT FORCES.
0206250007	KNOW THAT NUCLEAR ENERGY HAS PRODUCED USEFUL ISOTOPES.
0206250008	KNOW THAT IN A NUCLEAR REACTION, MATTER LOST EQUALS ENERGY G
0206250009	KNOW THAT IN NUCLEAR REACTIONS, THE NUCLEI OF ATOMS ARE DIVIDED
0206250010	DEMONSTRATE USE OF GEIGER COUNTER. RECORD COUNTS ON GUAGE FR
0206250011	MAKE MODEL OF NUCLEAR REACTOR.
0206250012	KNOW THAT IN A FUSION REACTION, SOME MATTER IS CONVERTED TO TREME
0206250013	KNOW THAT GREAT ENERGY STARTS A FUSION REACTION GREAT ENERGY I
0206250014	GIVEN DESCRIPTION OF AN ATOM BEFORE AND AFTER NUCLEAR PROCESS NATURAL RADIOACTIVE DECAY, ARTIFICIAL RADIOACTIVE DECAY (FISSION

, A LOSS OF MATTER IS A GAIN IN ENERGY AND THE SUM OF THE MATTER AND ENERGY

ED BY FISSION OF ATOMIC NUCLEI THE RATE OF FISSION CAN BE CONTROLLED.

ENDS ON THE QUANTITY OF URANIUM WHICH CAN UNDERGO FISSION.

LING AT THE RIGHT SPEED, CAUSE FISSION. THE NUMBER OF NEUTRONS CAPTURED BY
SSION.

E HARNESSED TO MACHINES TO DEVELOP OTHER FORMS OF ENERGY TO DO WORK.

CES GREAT FORCES.

RODUCED USEFUL ISOTOPES.

N, MATTER LOST EQUALS ENERGY GAINED.

, THE NUCLEI OF ATOMS ARE DIVIDED (FISSION) OR COMBINED (FUSION).

TER. RECORD COUNTS ON GUAGE FROM SOURCE, SUCH AS LUMINOUS CLOCK DIAL.

, SOME MATTER IS CONVERTED TO TREMENDOUS ENERGY.

A FUSION REACTION GREAT ENERGY IS RELEASED.

EFORE AND AFTER NUCLEAR PROCESS HAS OCCURRED, EXPLAIN WHETHER ATOM WENT THROUGH
IFICIAL RADIOACTIVE DECAY (FISSION), OR FUSION.

0206250015 IDENTIFY BENEFICIAL (E.G., TREATMENT OF CANCER) AND THE DETRIMENTAL (E
NUCLEAR ENERGY.

NT OF CANCER) AND THE DETRIMENTAL (E.G., RADIOACTIVE FALLOUT) ASPECTS OF

0204255	ENERGY TRANSFORMATION (OXIDATION)
0204255001	NAME THE BLACK SUBSTANCE AS CARBON AND THE LIQUID AS WATER IN
0204255002	DEMONSTRATE THAT A BLACK SUBSTANCE AND A LIQUID ARE FORMED WH
0204255003	KNOW THAT IRON AND OXYGEN COMBINE TO FORM IRON OXIDE, OR RUST.
0204255004	KNOW THAT OXYGEN RUSTS IRON MORE QUICKLY THAN AIR DOES.
0204255005	KNOW THAT SOME MOLECULES OF AIR SEEM TO DISAPPEAR WHEN IRON RUST
0204255006	DEMONSTRATE AS IRON RUSTS, THE AIR IN A CLOSED CONTAINER IS DIMINI
0204255007	DEMONSTRATE THAT, INSIDE A TEST TUBE CONTAINING WET STEEL WOO AS THE STEEL WOOL RUSTS.
0205255	ENERGY TRANSFORMATION (OXIDATION)
0205255001	KNOW THAT OTHER METALS COMBINE WITH OXYGEN TO FORM OXIDES COMPOSITION.
0205255002	KNOW THAT RUSTING CAN BE PREVENTED BY KEEPING OXYGEN AND IRON ATOM
0205255003	KNOW THAT RUSTING MAY BE HASTENED BY RAPID RELEASE OF OXYGEN IN
0205255004	DEMONSTRATE FORMATION OF RUST. COLLECT OXYGEN AFTER PLACING A SECOND. ALLOW TUBES TO SET TIL RUST FORMS.
0205255005	DESCRIBE RUST THAT FORMS AS A CHEMICAL COMPOUND, IRON OXIDE.
0205255006	KNOW THAT THE PRODUCTION OF CARBON DIOXIDE IS EVIDENCE OF OXIDAT

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D THE LIQUID AS      WATER IN THE HEATING OF SUGAR OVER A FLAME.

D A LIQUID ARE       FORMED WHEN SUGAR IN A TEST TUBE IS HEATED OVER A FLAME.

FORM IRON OXIDE, OR RUST.

KLY THAN AIR DOES.

TO DISAPPEAR WHEN    IRON RUSTS.

 A CLOSED CONTAINER IS DIMINISHED.

CONTAINING WET       STEEL WOOL INVERTED IN WATER, THE WATER LINE WILL RISE



XYGEN TO FORM        OXIDES   OXIDES CAN BE IDENTIFIED BY THEIR CHEMICAL

 KEEPING OXYGEN AND IRON ATOMS FROM COMBINING.

RAPID RELEASE OF     OXYGEN IN A CHEMICAL REACTION.

CT OXYGEN AFTER      PLACING AN IRON NAIL IN ONE TEST TUBE, STEEL WOOL IN
FORMS.
L COMPOUND, IRON     OXIDE.

OXIDE IS EVIDENCE    OF OXIDATION WITHIN LIVING THINGS.
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0205255007	INVESTIGATE OXIDATION IN SEVERAL EXAMPLES OF LIVING THINGS.
0205255008	KNOW THAT OXYGEN IS AN ACTIVE ELEMENT IT COMBINES READILY COMPOUNDS.
0205255009	KNOW THAT IN OXIDATION, MATTER IS NEITHER GAINED NOR LOST.

RAL EXAMPLES OF LIVING THINGS.

ELEMENT IT COMBINES READILY WITH MANY OTHER ELEMENTS TO FORM MANY OXYGEN

R IS NEITHER GAINED NOR LOST.

0204260	ENERGY TRANSFORMATION (OXYGEN)
0204260001	KNOW THAT OXYGEN AND CARBON DIOXIDE FORM A CYCLE.
0204260002	STATE THE FIVE IMPORTANT FACTS ABOUT THE OXYGEN CYCLE.
0204260003	NAME BUBBLES OF GAS, FROM AQUARIUM PLANTS, AS OXYGEN.
0204260004	DESCRIBE THAT BUBBLES RISE FROM AQUARIUM PLANTS GROWING IN SU LIGHT IS CUT OFF.
0204260005	DEMONSTRATE THE COLLECTION OF OXYGEN BY ADDING HYDROGEN PEROX TEST TUBE IN WATER, CAUSING GAS TO FORM IN THE TEST TUBE,
0205260	ENERGY TRANSFORMATION (OXYGEN)
0205260001	CONSTRUCT OXYGEN GAS GENERATOR. USE PLASTIC TUBING, FLASK BUBBLES OF OXYGEN PASS THROUGH WATER. WATER DISPLACED FROM
0205260002	DEMONSTRATE USE OF APPARATUS TO COLLECT OXYGEN.

DE FORM A CYCLE.

OUT THE OXYGEN CYCLE.

M PLANTS, AS OXYGEN.

QUARIUM PLANTS GROWING IN SUNLIGHT, AND THAT THE BUBBLES DECREASE WHEN THE

GEN BY ADDING HYDROGEN PEROXIDE TO A TEST TUBE CONTAINING YEAST, INVERTING THE
O FORM IN THE TEST TUBE, DISPLACING THE WATER.

USE PLASTIC TUBING, FLASK, CLAY- 3 PER CENT HYDROGEN PEROXIDE, YEAST.
TER. WATER DISPLACED FROM TUBE.

OLLECT OXYGEN.

0206265	ENERGY TRANSFORMATION (PRESSURE)
0206265001	KNOW THAT DIFFERENCES IN PRESSURE RESULT IN A FORCE ACTING IN
0206265002	KNOW THAT A DIFFERENCE IN PRESSURE MAY RESULT IN MOTION.
0206265003	KNOW THAT AN INCREASE IN PRESSURE RAISES TEMPERATURE, AND A RISE

IN PRESSURE RESULT IN A FORCE ACTING IN THE DIRECTION OF THE LOWER PRESSURE.

IN PRESSURE MAY RESULT IN MOTION.

IN PRESSURE RAISES TEMPERATURE, AND A RISE IN TEMPERATURE INCREASES PRESSURE.

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0203270          ENERGY TRANSFORMATION (SOLAR)

0203270001       STATE THE EARTH'S CHIEF SOURCE OF RADIANT ENERGY.


0203270002       EXPLAIN HOW WIND IS CAUSED BY HEAT FROM THE SUN.


0203270003       STATE THAT THERE IS STORED ENERGY IN A FUEL AND THAT     THIS ENE
                 THAT ONCE GREW IN SUNLIGHT.

0203270004       DEMONSTRATE THAT LIGHT (RADIANT ENERGY) CAN CHANGE INTO  HEAT, BY
                 SUNLIGHT ONTO THE BULB OF A THERMOMETER, CAUSING THE     LIQUID T

0203270005       KNOW THAT LIGHT (RADIANT ENERGY) CAN CHANGE INTO HEAT.


0203270006       USE A RADIOMETER TO DEMONSTRATE HOW LIGHT FROM THE SUN   CAN BE C



0205270          ENERGY TRANSFORMATION (SOLAR)

0205270001       KNOW THAT THE STORED ENERGY OF THE SUN IS TRANSFORMED    INTO OTH
                 ON THE PAST AS WELL AS ON THE PRESENT.
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F RADIANT ENERGY.

AT FROM THE SUN.

Y IN A FUEL AND THAT THIS ENERGY WAS PROBABLEY STORED BY PLANTS AND ANIMALS

ENERGY) CAN CHANGE INTO HEAT, BY USING A MAGNIFYING GLASS AND BY FOCUSING
MOMETER, CAUSING THE LIQUID TO RISE.

CAN CHANGE INTO HEAT.

HOW LIGHT FROM THE SUN CAN BE CHANGED TO ENERGY OF MOTION.

HE SUN IS TRANSFORMED INTO OTHER KINDS OF ENERGY MAN'S ENVIRONMENT DEPENDS
ESENT.

0202275 ENERGY TRANSFORMATION (SUBSTANCE)

0202275001 KNOW THAT SUGAR WILL DISSOLVE EVENLY IN WATER, AND THE PARTICLES
TASTED.

0202275002 DEMONSTRATE THAT SUGAR WILL DISSOLVE EVENLY IN WATER, AND THE P
BE TASTED.

0202275003 NAME THE PARTICLES IN SUGAR-WATER AS MOLECULES.

0202275004 KNOW THAT THE PARTICLES IN SUGAR-WATER ARE MOLECULES.

0202275005 KNOW THAT SUGAR MOLECULES IN WATER PASS THROUGH A COTTON FILTER, A
PARTICLES NOW VISIBLE.

0202275006 DEMONSTRATE THAT SUGAR MOLECULES IN WATER PASS THROUGH A COTTON
LEAVING SUGAR PARTICLES NOW VISIBLE.

0203275 ENERGY TRANSFORMATION (SUBSTANCE)

0203275001 KNOW THAT A SOLID DISSOLVED IN SOLUTION CAN BE RECOVERED AS A SOLI

0203275002 DEMONSTRATE THAT A SOLID DISSOLVED IN SOLUTION CAN BE RECOVERED
HEATING THE WATER, CAUSING IT TO BOIL AWAY, LEAVING NEARLY OR

0203275003 KNOW THAT A SUBSTANCE CAN BE BROKEN APART INTO OTHER SUBSTANCE

0203275004 DEMONSTRATE THAT A SUBSTANCE CAN BE BROKEN APART INTO OTHER SUB
COLLECT ON A GLASS INVERTED OVER IT ALSO CAUSING MATERIAL

0206275 ENERGY TRANSFORMATION (SUBSTANCE)

0206275001 THE CHILD WILL DESCRIBE THE PRESENCE OF SUGAR IN THE TEST TUBE
DIASTASE CHANGING STARCH TO SUGAR.

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STANCE)

LVE EVENLY IN WATER, AND THE   PARTICLES OF SUGAR WILL NOT BE VISIBLE BUT CAN BE

L DISSOLVE EVENLY IN WATER,    AND THE PARTICLES OF SUGAR WILL NOT BE VISIBLE BUT CAN

R-WATER AS MOLECULES.

 SUGAR-WATER ARE MOLECULES.

 IN WATER PASS THROUGH A COTTON FILTER, AND THAT THE WATER CAN EVAPORATE LEAVING SUGAR

ECULES IN WATER PASS THROUGH   A COTTON FILTER, AND THAT THE WATER CAN EVAPORATE
W VISIBLE.


STANCE)

D IN SOLUTION CAN BE RECOVERED AS A SOLID.

ISSOLVED IN SOLUTION CAN BE    RECOVERED AS A SOLID BY DISSOLVING SALT IN WATER  THEN
 IT TO BOIL AWAY, LEAVING      NEARLY ORIGINAL AMOUNT OF SALT LEFT AS SOLID.

 BE BROKEN APART INTO OTHER    SUBSTANCES.

CE CAN BE BROKEN APART INTO    OTHER SUBSTANCES, BY HEATING SUGAR, CAUSING STEAM TO
D OVER IT  ALSO CAUSING        MATERIAL LEFT TO TURN BLACK AND CHANGE.


STANCE)

E PRESENCE OF SUGAR IN THE     TEST TUBE WHICH TURNED YELLOW-ORANGE, DUE TO THE
O SUGAR.
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0206280	ENERGY TRANSFORMATION (VOLUME)
0206280001	USE FORMULA (L X W X H) FOR FINDING VOLUME OF A REGULAR SOLID (SUCH AS UNIT OF VOLUME (CUBIC CENTIMETER).

FOR FINDING VOLUME OF A REGULAR SOLID (SUCH AS RECTANGULAR PRISM) USING BASIC METRIC
NTIMETER).

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0202285         ENERGY TRANSFORMATION (WATER)

0202285001      KNOW THAT BOILING WATER CAUSES WATER TO CHANGE TO STEAM, AND THIS

0202285002      DESCRIBE THAT BOILING WATER CAUSES WATER TO CHANGE TO    STEAM, A

0202285003      KNOW THAT BOILING WATER CAUSES STEAM, AND THAT THE STEAM TAKES UP
                APART.

0202285004      DESCRIBE THAT BOILING WATER CAUSES STEAM, AND THAT THE   STEAM TA
                APART.


0203285         ENERGY TRANSFORMATION (WATER)

0203285001      KNOW THAT MOVING WATER HAS ENERGY.

0203285002      DEMONSTRATE THAT MOVING WATER HAS ENERGY, BY POURING     WATER OV
                TO TURN.

0203285003      USE A PINWHEEL TO DEMONSTRATE THAT MOVING WATER CAN MOVE OBJECTS.

0203285004      KNOW THAT THE WEIGHT OF WATER DOES NOT CHANGE AS WATER   CHANGES 

0203285005      DEMONSTRATE THAT THE WEIGHT OF WATER DOES NOT CHANGE AS  WATER CH
                ICE BEFORE AND AFTER THE ICE MELTS.

0203285006      KNOW THAT WATER CAN BE CHANGED QUICKLY FROM SOLID TO GAS

0203285007      DEMONSTRATE THAT WATER CAN BE CHANGED QUICKLY FROM SOLID TO GAS B
                BOILING.


0204285         ENERGY TRANSFORMATION (WATER)

0204285001      KNOW THAT FREEZING WATER EXPANDS.
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SES WATER TO CHANGE TO STEAM, AND THIS CAN DO WORK.

 CAUSES WATER TO CHANGE TO    STEAM, AND THIS CAN DO WORK.

SES STEAM, AND THAT THE STEAM TAKES UP MORE ROOM DUE TO MOLECULES MOVING FARTHER

 CAUSES STEAM, AND THAT THE   STEAM TAKES UP MORE ROOM DUE TO MOLECULES MOVING FARTHER



R)

NERGY.

R HAS ENERGY, BY POURING     WATER OVER THE PINWHEEL, CAUSING THE VANES OF THE WHEEL

E THAT MOVING WATER CAN MOVE OBJECTS.

R DOES NOT CHANGE AS WATER   CHANGES FROM LIQUID TO SOLID.

 OF WATER DOES NOT CHANGE AS  WATER CHANGES FROM LIQUID TO SOLID BY WEIGHING A JAR OF
E MELTS.
SED QUICKLY FROM SOLID TO GAS

BE CHANGED QUICKLY FROM SOLID TO GAS BY PLACING A PAN OF ICE OVER HIGH HEAT, CAUSING



R)

PANDS.
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0204285002	KNOW THAT THE EXPANSION OF WATER AS IT TURNS TO ICE HAS A GREAT FORCE.
0204285003	DEMONSTRATE THAT AS WATER FREEZES IT EXPANDS AND TAKES UP MORE SPACE B CAUSING ICE TO RISE ABOVE TOP OF CAN.
0204285004	KNOW THAT ICE OCCUPIES A GREATER VOLUME THAN WATER.
0204285005	KNOW THAT WARM WATER RISES IN COLD WATER COLD WATER SINKS IN WARM W
0204285006	KNOW THAT WARM WATER RISES BECAUSE IT EXPANDS...
0204285007	DEMONSTRATE THAT WARM WATER RISES AND COLD WATER SINKS.
0204285008	DEMONSTRATE THAT WARM WATER RISES WHEN MIXED WITH COLD WATER, BY POURI COLD WATER, CAUSING THE COLORED WATER TO REMAIN IN THE TOP HALF OF THE
0204285009	DEMONSTRATE THAT COLD WATER SINKS WHEN MIXED WITH WARM WATER, BY POURI WARM WATER, CAUSING THE COLORED WATER TO SETTLE IN THE BOTTOM HALF OF
0204285010	DEMONSTRATE THAT A DROP OF WATER DISAPPEARS AND CAN BE FORMED AGAIN, B CHAMBER AND ALTERNATELY PLACING THE CONTAINER IN A WARM, THEN COOL
0204285011	KNOW THAT WATER BECOMES AN INVISIBLE GAS WHEN SUPER HEATED AND RETU
0205285	ENERGY TRANSFORMATION (WATER)
0205285001	DEMONSTRATE FORCE OF ICE. FILL PLASTIC CONTAINER WITH WATER, TAP ON L OPEN.
0206285	ENERGY TRANSFORMATION (WATER)
0206285001	DEMONSTRATE THAT COLD WATER CAN GIVE MORE HEAT TO ICE THAN HOT WATER BOILING WATER TO ONE, COLD TO OTHER. COLD WATER MELTS ICE FASTER.

TER AS IT TURNS TO ICE HAS A GREAT FORCE.

EZES IT EXPANDS AND TAKES UP MORE SPACE BY FREEZING WATER IN OPEN CAN. THUS
OF CAN.

ATER VOLUME THAN WATER.

COLD WATER COLD WATER SINKS IN WARM WATER.

AUSE IT EXPANDS...

SES AND COLD WATER SINKS.

SES WHEN MIXED WITH COLD WATER, BY POURING COLORED WARM WATER INTO A GLASS OF
D WATER TO REMAIN IN THE TOP HALF OF THE JAR.

NKS WHEN MIXED WITH WARM WATER, BY POURING COLORED COLD WATER INTO A GLASS OF
D WATER TO SETTLE IN THE BOTTOM HALF OF THE JAR.

ER DISAPPEARS AND CAN BE FORMED AGAIN, BY ENCLOSING THE DROP IN A CLOSED GLASS
G THE CONTAINER IN A WARM, THEN COOL PLACE.

ISIBLE GAS WHEN SUPER HEATED AND RETURNS TO A LIQUID WHEN COOLED.

L PLASTIC CONTAINER WITH WATER, TAP ON LID, FREEZE WATER. LID WILL BE FORCED

N GIVE MORE HEAT TO ICE THAN HOT WATER. FILL TWO BEAKERS, WITH ICE, ADD 1/2 IN.
OTHER. COLD WATER MELTS ICE FASTER.

0206285002	MAKE TABLE OF TEMPERATURES OF WATER AND TIME TO MELT ICE.
0206285003	DEMONSTRATE MOTION OF WATER MOLECULES. COLUMN OF WATER WILL MOVE FLASK WHEN FLASK IS WARMED BY HANDS.
0206285004	THE CHILD WILL DEMONSTRATE THAT A COLUMN OF WATER DOES NOT MOVE THE GLASS FLASK.
0206285005	THE CHILD WILL DESCRIBE THAT THE WATER MOVES UP THE GLASS TU WATER IS WARMED.

ES OF WATER AND TIME TO MELT ICE.

TER MOLECULES. COLUMN OF WATER WILL MOVE UP GLASS TUBE INSERTED AND SEALED INTO GLASS
ED BY HANDS.

TE THAT A COLUMN OF WATER DOES NOT MOVE UPWARD WHEN A VACUUM FLASK IS USED INSTEAD OF

THAT THE WATER MOVES UP THE GLASS TUBE, DUE TO FASTER MOVING MOLECULES, WHEN THE

0204290	EROSION
0204290001	DEFINE EROSION. NAME AND DESCRIBE THREE WAYS IT CAN OCCUR.
0204290002	DEMONSTRATE HOW WATER MOVES LAND BY SPRINKLING WATER ON SAND HILL CAU
0204290003	DEMONSTRATE THAT MOVING WATER CAN CARRY SAND PARTICLES BY STIRRING W CAUSING SAND PARTICLES TO RISE INTO SWIRLING WATER.
0204290004	DEMONSTRATE THAT FASTER MOVING WATER CARRIES MORE SAND PARTICLES THA WHICH WATER IS STIRRED.
0204290005	KNOW HOW PLANTS REDUCE EROSION.
0205290	EROSION
0205290001	KNOW THAT WEATHERING AND EROSION BREAK DOWN THE HARDEST ROCK.
0205290002	KNOW THAT PLANTS ARE AGENTS OR EROSION.
0205290003	KNOW THAT WIND AND WATER ARE AGENTS OF EROSION.
0205290004	KNOW THAT WEATHERING AND EROSION HELP BUILD UP NEW LAND.
0205290005	KNOW THAT THE ACTION OF WATER SORTS OUT SOIL PARTICLES, WHICH SETTLE I ROCKS.
0205290006	EXPLAIN THE DIFFERENCE BETWEEN WEATHERING AND EROSION AND GIVE EXAMP THE EARTH.

BE THREE WAYS IT CAN OCCUR.

BY SPRINKLING WATER ON SAND HILL CAUSING SAND TO FLOW DOWN GROOVE AS IN RIVER.

N CARRY SAND PARTICLES BY STIRRING WATER IN JAR CONTAINING SAND AT BOTTOM
NTO SWIRLING WATER,

ATER CARRIES MORE SAND PARTICLES THAN SLOWER MOVING WATER BY VARYING SPEED WIT

BREAK DOWN THE HARDEST ROCK.

ROSION.

NTS OF EROSION.

HELP BUILD UP NEW LAND.

RTS OUT SOIL PARTICLES, WHICH SETTLE IN LAYERS AND EVENTUALLY FORM SEDIMENTARY

EATHERING AND EROSION AND GIVE EXAMPLES OF HOW EACH BREAK DOWN AND BUILD UP

0200295	FISH
0200295001	KNOW THAT A FISH BEGAN ITS LIFE AS AN EGG, WHICH HATCHED INTO A TI
0200295002	DESCRIBE HOW A FISH BEGAN ITS LIFE AS AN EGG, WHICH HATCHED I ADULT.
0200295003	KNOW HOW A FISH MOVES, GETS AIR, AND EATS.
0200295004	DESCRIBE HOW A FISH MOVES, GETS AIR, AND EATS, BY OBSERVING
0200295005	IDENTIFY THE PARTS OF THE FISH AS TAIL, FINS, GILLS, AND SCALES.

0204295	FISH
0204295001	INVESTIGATE THE STRUCTURES THAT ADAPT A FISH FOR WATER LIVING.
0204295002	DESCRIBE HOW LIVING FISH IS FITTED FOR MOVING THROUGH WATER, BY CHARACTERISTICS AND ITS MOTIONS.
0204295003	DRAW AND LABEL THE FOOD CHAIN OF A SALMON.
0204295004	UNDERSTAND THE SALMON LIFE CYCLE IN WHICH THEY TRAVEL GREAT DIST SPAWNING GROUNDS IN FRESH WATER.
0204295005	KNOW THAT THE LIFE CYCLE OF A SALMON IS REPEATED AS THE EGGS HATCH TO DEVELOP INTO ADULT SALMON.
0204295006	KNOW HOW THE SALMON'S LIFE CYCLE IS REPEATED OVER AND OVER.
0204295007	WRITE OR TELL THE STORY OF A SALMON'S LIFE CYCLE USING THE CORREC

LIFE AS AN EGG, WHICH HATCHED INTO A TINY FISH AND THEN GREW TO BECOME AN ADULT.

TS LIFE AS AN EGG, WHICH HATCHED INTO A TINY FISH AND THEN GREW TO BECOME AN

AIR, AND EATS.

GETS AIR, AND EATS, BY OBSERVING A GOLDFISH IN AN AQUARIUM.

ISH AS TAIL, FINS, GILLS, AND SCALES.

THAT ADAPT A FISH FOR WATER LIVING.

FITTED FOR MOVING THROUGH WATER, BY OBSERVING AND RECORDING THE FISH'S
IONS.

IN OF A SALMON.

CYCLE IN WHICH THEY TRAVEL GREAT DISTANCES FROM FEEDING GROUNDS IN SALT WATER TO
ATER.

A SALMON IS REPEATED AS THE EGGS HATCH AND THE SALMON YOUNG RETURNED TO SALT WATER
N.

CYCLE IS REPEATED OVER AND OVER.

A SALMON'S LIFE CYCLE USING THE CORRECT NAMES FOR EACH PHASE.

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0205295         FISH

0205295001      CONSTRUCT AN AQUARIUM SYSTEM BY ESTABLISHING A TANK      CONTAINING W

0205295002      DEMONSTRATE THAT TEMPERATURE OF WATER CHANGES LESS       RAPIDLY THAN
                MEASURE CHANGES IN AIR AND WATER DURING ENVIRONMENTAL    TEMPERATURE

0205295003      OBSERVE A FISH AND EXPLAIN HOW ITS STRUCTURE ADAPTS IT   TO ITS ENVIR

0205295004      DESCRIBE ADAPTATIONS OF FISH FOR LIFE ACTIVITIES AS      MOVEMENT, GE
                BY OBSERVING FISH IN AN AQUARIUM AND BY READING          REFERENCES.


0206295         FISH

0206295001      THE CHILD WILL CONSTRUCT A HYPOTHESIS ABOUT HOW LONG IT  WILL TAKE FO
                STIMULUS.
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BY ESTABLISHING A TANK CONTAINING WATER, SAND, PLANTS, AND FISH.

E OF WATER CHANGES LESS RAPIDLY THAN TEMPERATURE OF AIR BY USING THERMOMETERS TO
ATER DURING ENVIRONMENTAL TEMPERATURE CHANGES.

OW ITS STRUCTURE ADAPTS IT TO ITS ENVIRONMENT.

FOR LIFE ACTIVITIES AS MOVEMENT, GETTING FOOD, GETTING AIR, AND REPRODUCTION,
ARIUM AND BY READING REFERENCES.

YPOTHESIS ABOUT HOW LONG IT WILL TAKE FOR THE FISH TO BE CONDITIONED TO THE NEW

0200300	FORCE AND MOTION
0200300001	KNOW THAT PUSHES AND/OR PULLS ARE FORCES.
0200300002	DEMONSTRATE THAT A PUSH OR PULL IS NEEDED TO MAKE THINGS MOVE, B
0200300003	NAME PUSHES AND PULLS AS FORCES.
0200300004	KNOW THAT A FORCE IS NEEDED TO STOP AN OBJECT THAT IS MOVING.
0200300005	KNOW THAT A FORCE IS NEEDED TO CHANGE THE DIRECTION OF A MOTION.
0200300006	DEMONSTRATE THAT A FORCE IS NEEDED TO CHANGE THE DIRECTI OBSTACLES, CAUSING THEM TO BE DEFLECTED.
0200300007	KNOW THAT A PUSH OR PULL IS NEEDED TO MAKE THINGS MOVE, BY MOVI
0200300008	NAME THE FORCE THAT CAUSES FALLING THINGS TO FALL TOWARD
0200300009	KNOW THAT THE FORCE THAT CAUSES FALLING THINGS TO FALL TOWARD
0200300010	KNOW THAT AS THINGS ARE DROPPED THEY FALL TOWARD THE EARTH.
0200300011	DEMONSTRATE THAT AS THINGS ARE DROPPED THEY FALL TOWARD THE EART
0200300012	KNOW THAT GRAVITY MAKES THINGS GO FASTER AND FASTER.
0200300013	DEMONSTRATE THAT GRAVITY MAKES THINGS GO FASTER, BY ROLLING POINTS ON BOARD, OR BY RAISING AND LOWERING BOARD MARKING
0200300014	KNOW THAT THE PULL THAT CAUSES FALLING THINGS TO FALL TOWARD

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LS ARE FORCES.

PULL IS NEEDED TO MAKE THINGS MOVE, BY MOVING VARIOUS OBJECTS.

RCES.

 TO STOP AN OBJECT THAT IS    MOVING.

 TO CHANGE THE DIRECTION OF A MOTION.

 NEEDED TO CHANGE THE         DIRECTION OF A MOTION, BY ROLLING OBJECTS AGAINST
BE DEFLECTED.

 NEEDED TO MAKE THINGS MOVE,  BY MOVING VARIOUS OBJECTS.

FALLING THINGS TO FALL        TOWARD THE EARTH AS GRAVITY.

USES FALLING THINGS TO FALL   TOWARD THE EARTH IS GRAVITY.

PPED THEY FALL TOWARD THE     EARTH.

ARE DROPPED THEY FALL TOWARD  THE EARTH.

NGS GO FASTER AND FASTER.

KES THINGS GO FASTER, BY      ROLLING OBJECTS DOWN SMOOTH BOARD, STARTING AT DIFFERENT
ING AND LOWERING BOARD        MARKING WHERE OBJECTS STOP.

SES FALLING THINGS TO FALL    TOWARD THE EARTH IS A FORCE.
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0200300015	DESCRIBE THE PULL THAT CAUSES FALLING THINGS TO FALL TOWARD THE
0200300016	KNOW THAT IN ORDER TO LIFT AN OBJECT, THE NET FORCE MUST BE GREATER
0200300017	DESCRIBE THAT A FORCE IS NEEDED TO STOP AN OBJECT THAT IS MOVING, BEEN MOVED WILL COME TO A STOP.
0200300018	KNOW THAT THE FORCE THAT STOPS MOVING OBJECTS IS FRICTION.
0200300019	DEMONSTRATE THAT FRICTION STOPS ROLLING AND SLIDING OBJECTS, BY BOARD CAUSING SLIDING OBJECTS TO STOP MORE QUICKLY.
0200300020	KNOW THAT FRICTION STOPS ROLLING AND SLIDING OBJECTS.
0200300021	NAME THE FORCE THAT STOPS MOVING OBJECTS AS FRICTION.
0200300022	DEMONSTRATE THE FUNCTION OF A LEVER AND FULCRUM, BY USING A SIMP DIRECTION OF FORCE BEING USED BY HIM.
0200300023	KNOW THAT IT IS EASIER TO LIFT SOMETHING WITH A LEVER OR SEESAW WHEN
0200300024	DEMONSTRATE THAT IT IS EASIER TO LIFT SOMETHING WITH A LEVER OR SEE
0200300025	DEMONSTRATE THAT LIFTING OBJECTS IS THE USING OF A FORCE IN THE DIREC OBJECTS REQUIRE MORE FORCE TO LIFT THEM.
0200300026	KNOW THE FUNCTION OF A LEVER AND FULCRUM.
0200300027	KNOW THAT HEAVIER OBJECTS ARE THOSE THAT NEED MORE FORCE TO MOV
0200300028	DESCRIBE HEAVIER OBJECTS AS THOSE THAT NEED MORE FORCE TO MOVE THEM

FALLING THINGS TO FALL TOWARD THE EARTH AS A FORCE.

OBJECT, THE NET FORCE MUST BE GREATER THAN THE FORCE OF GRAVITY.

D TO STOP AN OBJECT THAT IS MOVING, BY OBSERVING THAT ROLLING OBJECTS THAT HAVE
.

MOVING OBJECTS IS FRICTION.

S ROLLING AND SLIDING OBJECTS, BY ROLLING AND SLIDING DIFFERENT OBJECTS DOWN A
TO STOP MORE QUICKLY.

NG AND SLIDING OBJECTS.

NG OBJECTS AS FRICTION.

LEVER AND FULCRUM, BY USING A SIMPLE LEVER TO LIFT OBJECTS AND CHANGE THE
BY HIM.

SOMETHING WITH A LEVER OR SEESAW WHEN THE LOAD IS ON THE SHORT END.

TO LIFT SOMETHING WITH A LEVER OR SEESAW WHEN THE LOAD IS ON THE SHORT END.

TS IS THE USING OF A FORCE IN THE DIRECTION OPPOSITE TO GRAVITY, AND THAT HEAVIER
LIFT THEM.

ND FULCRUM.

THOSE THAT NEED MORE FORCE TO MOVE THEM.

HOSE THAT NEED MORE FORCE TO MOVE THEM.

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0200300029       DESCRIBE THAT, IN ORDER TO LIFT AN OBJECT, THE NET FORCE MUST BE G



0201300          FORCE AND MOTION

0201300001       KNOW THAT THE UPWARD PUSH OF A RELEASED BALLOON IS        CAUSED BY

0201300002       DEMONSTRATE A MODEL OF A ROCKET BY BLOWING UP A BALLOON   AND LETTI

0201300003       DESCRIBE THAT THE UPWARD PUSH IS CAUSED BY THE AIR        RUSHING D

0201300004       DEMONSTRATE FRICTION BY PULLING A ROLLER SKATE WITH A     RUBBER BA
                 WHEN THE SKATE IS DRAGGED ON ITS SIDE THAN WHEN IT IS     IS PULLED


0203300          FORCE AND MOTION

0203300001       GIVEN A 4 WHEELED CART AND RAMP, SHOW BY DEMONSTRATION    WHICH WAY


0204300          FORCE AND MOTION

0204300001       DEMONSTRATE YOUR UNDERSTANDING OF THE TERM FORCE AND      APPLY THE
                 A PULL IS EXERTED ON AN OBJECT.

0204300002       DESIGN A SIMPLE EXPERIMENT WHICH DEMONSTRATES THE         APPLICATI
                 INERTIA).


0205300          FORCE AND MOTION

0205300001       KNOW THAT PRESSURE CAUSES MATTER TO MOVE.
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 LIFT AN OBJECT, THE NET FORCE MUST BE GREATER THAN THE FORCE OF GRAVITY.




OF A RELEASED BALLOON IS        CAUSED BY THE DOWNWARD RUSH OF AIR FROM THE BALLOON.

OCKET BY BLOWING UP A BALLOON   AND LETTING IT GO, CAUSING THE BALLOON TO MOVE.

USH IS CAUSED BY THE AIR        RUSHING DOWN WARD FROM THE BALLOON.

LLING A ROLLER SKATE WITH A     RUBBER BAND, CAUSING THE RUBBER BAND TO STRETCH MORE
ON ITS SIDE THAN WHEN IT IS     IS PULLED ON ITS WHEELS.



 RAMP, SHOW BY DEMONSTRATION    WHICH WAY THE CART PULLS EASIEST---UP THE RAMP OF DOWN.



DING OF THE TERM FORCE AND      APPLY THE TERM IN DESCRIBING SITUATIONS WHERE A PUSH OR
JECT.

 WHICH DEMONSTRATES THE         APPLICATION OF NEWTON'S FIRST LAW OF MOTION (LAW OF



MATTER TO MOVE.
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0205300002        KNOW THAT ENERGY MUST BE SUPPLIED TO DEVELOP A FORCE     SUFFICIE

0205300003        THROUGH INVESTIGATION, DEDUCE THAT ENERGY IS NECESSARY   TO SUPPL
                  IS AN UNBALANCED FORCE.

0205300004        FROM OBSERVATION, REASON THAT ENERGY OF MOTION (AN       UNBALANC
                  TO CREATE THRUST.

0205300005        FROM OBSERVATION OF AN EXPERIMENT, RECOGNIZE PROOF WHICH SHOWS TH
                  (WEIGHT) AN EQUAL AMOUNT OF FORCE IS NEEDED.

0205300006        DESCRIBE SPRING BALANCE AS A FORCE OF GRAVITATION METER  AND READ

0205300007        DEMONSTRATE FORCE OF GRAVITY EXERTS PULL ON OBJECT.      SUSPEND

0205300008        INFER THAT EVERY ACTION HAS AN OPPOSITE AND EQUAL        REACTION

0205300009        DEMONSTRATE PRINCIPLE THAT EVERY ACTION HAS AN EQUAL AND OPPOSITE

0205300010        DESCRIBE ABOVE ACTION AS EXAMPLE OF NEWTON'S LAW OF      ACTION A

0205300011        USE THE LAW OF ACTION AND REACTION BY RESPONDING TO      GIVEN QU

0205300012        GAIN INSIGHT INTO INERTIA OF REST AND INERTIA OF MOTION  BY EXAMI

0205300013        INFER THAT OBJECTS IN MOTION TEND TO MOVE IN A STRAIGHT  LINE BUT
                  SPACECRAFT INTO ORBIT AROUND THE EARTH.

0205300014        KNOW THAT ENERGY MUST BE APPLIED TO PRODUCE AN           UNBALANC
                  MOTION.

0205300015        MATCH WORDS AND PHRASES WITH THEIR DEFINITION PERTAINING TO MOTIO
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 DEVELOP A FORCE      SUFFICIENT TO OVERCOME GRAVITATIONAL PULL.

NERGY IS NECESSARY   TO SUPPLY A FORCE THAT STARTS AN OBJECT MOVING.  THIS

 OF MOTION (AN       UNBALANCED FORCE) REACTS AGAINST THE GRAVITATIONAL PULL

ECOGNIZE PROOF WHICH SHOWS THAT TO ACT AGAINST CERTAIN GRAVITATIONAL FORCE
 NEEDED.
F GRAVITATION METER  AND READING FOR EACH OBJECT AS MEASURE OF PULL.

PULL ON OBJECT.      SUSPEND OBJECTS FROM SPRING BALANCES.  POINTER MOVES.

ITE AND EQUAL        REACTION.

ION HAS AN EQUAL AND OPPOSITE REACTION.

NEWTON'S LAW OF      ACTION AND REACTION.

Y RESPONDING TO      GIVEN QUESTIONS.

D INERTIA OF MOTION  BY EXAMINING FAMILIAR OBJECTS.

 MOVE IN A STRAIGHT  LINE BUT THAT SOME FORCE (GRAVITATIONAL) PULLS A
TH.
PRODUCE AN           UNBALANCED FORCE, RESULTING IN MOTION OR CHANGE OF

EFINITION PERTAINING TO MOTION OR THE CHANGE IN MOTION.
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0205300016      IDENTIFY ACCEPTABLE DEFINITIONS FOR THE TERMS FORCE,     INERTIA, A

0205300017      RECOGNIZE EXAMPLES OF INERTIA SHOWN IN EXPERIMENTS.

0205300018      USE THE LAW OF INERTIA IN AN EXPLANATION OF A SITUATION  USING BOOKS

0205300019      KNOW THAT ALL OBJECTS ATTRACT ONE ANOTHER BY THE FORCE   OF GRAVITAT

0205300020      KNOW THAT AN OBJECT AT REST REMAINS AT REST AND AN       OBJECT IN
                UNBALANCED FORCE.

0205300021      KNOW THAT MOTION IS A FORM OF CHANGE.

0205300022      IDENTIFY VARIABLES WHICH AFFECT THE SWING OF A PENDULUM  AND TELL HO



0206300         FORCE AND MOTION

0206300001      GIVEN A SERIES OF EVERYDAY ACTIVITIES, RECOGNIZE THOSE   WHICH ARE D
                COMPLETING AN ACTION OR ACTIVITY.

0206300002      KNOW THAT WHEN EFFORT FORCE IS MULTIPLIED, DISTANCE IS   LOST.

0206300003      KNOW THAT FRICTION INCREASES EFFORT THAT MUST BE         APPLIED, AN

0206300004      KNOW THAT FRICTION IS A FORCE THAT RESISTS MOTION.

0206300005      KNOW THAT THE AMOUNT OF FRICTION DEPENDS UPON THE KINDS  OF SURFACES

0206300006      KNOW THAT THE LESS TWO SURFACES ARE IN CONTACT, THE LESS THE FRICTIO
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IONS FOR THE TERMS FORCE, INERTIA, AND WEIGHT.

IA SHOWN IN EXPERIMENTS.

N EXPLANATION OF A SITUATION USING BOOKS AND BICYCLES.

CT ONE ANOTHER BY THE FORCE OF GRAVITATION.

REMAINS AT REST AND AN OBJECT IN MOTION REMAINS IN MOTION UNLESS ACTED ON BY AN

OF CHANGE.

FECT THE SWING OF A PENDULUM AND TELL HOW THE SWING IS AFFECTED BY THESE VARIABLES.

ACTIVITIES, RECOGNIZE THOSE WHICH ARE DEPENDENT UPON THE GRAVITATIONAL FORCE FOR
IVITY.

IS MULTIPLIED, DISTANCE IS LOST.

S EFFORT THAT MUST BE APPLIED, AND DECREASES SPEED (DISTANCE).

CE THAT RESISTS MOTION.

CTION DEPENDS UPON THE KINDS OF SURFACES THAT ARE IN CONTACT.

ACES ARE IN CONTACT, THE LESS THE FRICTION BETWEEN THEM.

0206300007 KNOW THAT FRICTION IS SOMETIMES USEFUL.

0206300008 KNOW THAT WORK IS DONE ONLY WHEN AN OBJECT IS MOVED THROUGH A

0206300009 STATE THE RULE FOR WORK WHICH IS MULTIPLYING THE FORCE NEEDED BY

0206300010 INFER RELATIONSHIPS AND DEVELOP AN EQUATION FOR WORK.

0206300011 KNOW THAT EVERY ACTION HAS AN EQUAL AND OPPOSITE REACTION.

0206300012 KNOW THAT ACTION-REACTION CAN BE USED TO CHANGE SPEED OR DIRECTI

0206300013 USING NEWTON'S FIRST LAW OF MOTION, PREDICT WHAT WILL HAPPEN TO
APPLIED TO THE OBJECTS.

0206300014 PREDICT WHICH OF SEVERAL OBJECTS WILL ACCELERATE MORE WHEN GIVEN
DIRECTION OF THE FORCE APPLIED.

0206300015 RECOGNIZE FACTORS THAT WILL AFFECT THE INERTIA OF AN OBJECT IN

0206300016 PREDICT HOW THE FOLLOWING FACTORS AFFECT THE MOVEMENT OF OBJECTS

ECT IS MOVED THROUGH A DISTANCE.

LYING THE FORCE NEEDED BY THE DISTANCE THE OBJECT IS MOVED.

TION FOR WORK.

OPPOSITE REACTION.

D CHANGE SPEED OR DIRECTION OF MOTION.

DICT WHAT WILL HAPPEN TO OBJECTS MOVING OR AT REST WHEN SOME FORCE IS

CCELERATE MORE WHEN GIVEN THE MASS OF THE OBJECTS AND THE SIZE AND

INERTIA OF AN OBJECT IN A GIVEN SITUATION.

T THE MOVEMENT OF OBJECTS FORCES, FRICTION, UNBALANCED FORCES.

0202305	FUELS
0202305001	KNOW THAT OIL DROPS CAN SOAK INTO SANDSTONE.
0202305002	DEMONSTRATE THAT OIL DROPS CAN SOAK INTO SANDSTONE, THUS DEVELOPING OF THE EARTH.
0202305003	KNOW THAT THERE ARE THREE COMPONENT LEVELS OF AN OIL SUPPLY MODE
0202305004	IDENTIFY THREE COMPONENT LEVELS OF A MODEL OF AN OIL SUPPLY IN T FILLED WITH MARBLES), ---WATER, OIL, AND GAS.
0202305005	CONSTRUCT A MODEL OF AN OIL SUPPLY IN THE EARTH, BY MIXING OIL

K INTO SANDSTONE.

CAN SOAK INTO SANDSTONE, THUS DEVELOPING A MODEL OF HOW OIL CAN BE HELD IN ROCK LAYERS

OMPONENT LEVELS OF AN OIL SUPPLY MODEL IN THE EARTH---WATER, OIL, AND GAS.

VELS OF A MODEL OF AN OIL SUPPLY IN THE EARTH, (BY MIXING OIL AND WATER INTO A JAR
TER, OIL, AND GAS.

SUPPLY IN THE EARTH, BY MIXING OIL AND WATER INTO A JAR FILLED WITH MARBLES.

0205310	GENETICS
0205310001	STUDY AND RESEARCH THE PART THAT CHROMOSOMES PLAY IN CHANGES I
0205310002	KNOW THAT THE PATTERN OF THE ORGANISM IS PASSED ALONG TO NEW CELLS CONTENT.
0205310003	CONCEPTUALIZE CHROMOSOME PAIRING BY MAKING AND MANIPULAT
0206310	GENETICS
0206310001	KNOW THAT THE CHARACTERISTICS OF A LIVING THING ARE LAID DOWN IN A
0206310002	KNOW THAT INHERITED TRAITS INTERACT WITH THE ENVIRONME
0206310003	KNOW THAT THE CELLS IN THE OFFSPRING OF ONLY ONE PARENT WILL CARR CELL NUCLEUS) DETERMINES FOR THE TRAITS OF THE PARENT.
0206310004	KNOW THAT A SEED PLANT IS THE PRODUCT OF A CELL CARRYING TRAITS FR
0206310005	KNOW THAT THE DNA MOLECULE CARRIES IN ITS PARTS (GENES) THE CODE ORGANISM.
0206310006	KNOW THAT GENES CARRYING THE GENETIC CODE FOR A TRAIT MAY BE EI
0206310007	KNOW THAT THE GENETIC CODE IS CARRIED BY A LARGE MOLECULE
0206310008	KNOW THAT ORGANISMS CAN BE MAINTAINED GENETICALLY PURE FOR A GIV
0206310009	KNOW THAT A PURE TRAIT CAN BE KEPT PURE BY MAKING SURE THAT SEED
0206310010	KNOW THAT SELECTING OF TRAITS CAN BE CONTROLLED BY SELECTIVE

HAT CHROMOSOMES PLAY IN CHANGES IN THE STRUCTURE OF LIVING THINGS.

ORGANISM IS PASSED ALONG TO NEW CELLS BY DUPLICATION OF CHROMOSOMES AND THEIR DNA

RING BY MAKING AND MANIPULATING MODELS.

S OF A LIVING THING ARE LAID DOWN IN A GENETIC CODE.

NTERACT WITH THE ENVIRONMENT.

FFSPRING OF ONLY ONE PARENT WILL CARRY IN ITS CHROMOSOMES (TINY BODIES WITHIN THE
THE TRAITS OF THE PARENT.

E PRODUCT OF A CELL CARRYING TRAITS FROM TWO PARENTS.

ARRIES IN ITS PARTS (GENES) THE CODE THAT DETERMINES THE INHERITED TRAITS OF AN

GENETIC CODE FOR A TRAIT MAY BE EITHER DOMINANT OR RECESSIVE.

S CARRIED BY A LARGE MOLECULE IN THE CHROMOSOME.

AINTAINED GENETICALLY PURE FOR A GIVEN TRAIT.

E KEPT PURE BY MAKING SURE THAT SEEDS HAVE GENES FOR ONLY THE PURE TRAIT.

S CAN BE CONTROLLED BY SELECTIVE POLLINATION.

0206310011	KNOW THAT DOMINANT AND RECESSIVE TRAITS CAN BE SORTED OUT B
0206310012	KNOW THAT GENETIC TRAITS INTERACT IN MANY WAYS. THE RESUL BLENDING.
0206310013	KNOW THAT WHEN TWO DIFFERENT GENES AFFECTING THE SAME TRAIT ORGANISM IS A HYBRID.
0206310014	KNOW THAT THE VISIBLE APPEARANCE OF TRAITS MAY BE ALTER
0206310015	KNOW THAT THE GENETIC CODE CAN CHANGE.
0206310016	KNOW THAT CHANGES IN THE GENETIC CODE PRODUCE CHANGES IN LIVIN
0206310017	KNOW THAT OFFSPRING OF A SINGLE PARENT HAVE THE PARENT'S GENET
0206310018	KNOW THAT A MUTATION (A CHANGE IN THE GENE) IS PASSED ALONG
0206310019	KNOW THAT IMPROVED PLANTS AND ANIMALS ARE THE PRODUCT OF SELECT
0206310020	KNOW THAT OFFSPRING OF TWO PARENTS INHERIT GENES FROM BOTH DEPENDS ON THE INTERACTION OF THE GENETIC CODE FROM BOTH PARENT
0206310021	KNOW THAT DESIRABLE MUTATIONS MAY BE ESTABLISHED BY CROSS-
0206310022	KNOW THAT DESIRABLE MUTATIONS IN ANIMALS MAY BE ESTABL

RECESSIVE TRAITS CAN BE SORTED OUT BY CROSSING.

S INTERACT IN MANY WAYS. THE RESULTING EFFECT MAY BE DOMINANCE, RECESSIVENESS, OR

ERENT GENES AFFECTING THE SAME TRAIT ARE IN THE CHROMOSOME (FOR THE DNA MOLECULE), THE

PPEARANCE OF TRAITS MAY BE ALTERED, BUT THE TRAITS REMAIN UNCHANGED.

DDE CAN CHANGE.

E GENETIC CODE PRODUCE CHANGES IN LIVING THINGS.

A SINGLE PARENT HAVE THE PARENT'S GENETIC CODE.

CHANGE IN THE GENE) IS PASSED ALONG IN THE GENETIC CODE.

TS AND ANIMALS ARE THE PRODUCT OF SELECTIVE BREEDING FOR THE DESIRED TRAITS.

TWO PARENTS INHERIT GENES FROM BOTH PARENTS. AN INCREASE IN THE NUMBER OF MUTANTS
ION OF THE GENETIC CODE FROM BOTH PARENTS.

ATIONS MAY BE ESTABLISHED BY CROSS-POLLINATION OF PLANTS HAVING THE DESIRED TRAITS.

ATIONS IN ANIMALS MAY BE ESTABLISHED BY SELECTIVE BREEDING.

0204315	GEOLOGY
0204315001	KNOW THAT THE ENVIRONMENT IS IN CONSTANT CHANGE.
0204315002	KNOW THAT THE EARTH'S SURFACE IS ALWAYS CHANGING.
0204315003	UNDERSTAND HOW THE ENERGY OF MOVING WATER CHANGES THE EARTH'S S
0204315004	KNOW HOW LAND WORN DOWN IN ONE PLACE IS BUILT UP IN ANOTHER.
0204315005	KNOW HOW PRESSURES ON AND IN THE EARTH CAUSE MOUNTAINS TO RISE.
0204315006	KNOW HOW THE PRESSURE OF SEDIMENT MAY CAUSE MOUNTAINS TO RISE.
0204315007	EXPLAIN HOW THE WEIGHT OF SEDIMENT CAN HELP TO RAISE MOUNTAINS
0204315008	KNOW THAT THE PRESSURE ON THE MOLTEN ROCK WITHIN THE EARTH CAU
0204315009	KNOW HOW UNEQUAL EXPANSION AND CONTRACTION CAN BREAK ROCKS.
0204315010	USING MARBLES SHOW HOW EXPANSION AND CONTRACTION WITH HEAT AND
0204315011	SHOW HOW FREEZING WATER EXPANDS WITH ENOUGH FORCE TO BREAK ROC
0204315012	KNOW THAT THE EXPANSION AND THE CONTRACTION OF ROCK, AND AND THE F
0204315013	KNOW HOW THE EXPANSION OF FREEZING WATER BREAKS DOWN ROCKS.
0204315014	GIVEN MODEL OR DIAGRAM OF THE EARTH, NAME EACH OF THE THREE LAY GENERAL PROPERTIES OF EACH.

N CONSTANT CHANGE.

IS ALWAYS CHANGING.

OVING WATER CHANGES THE EARTH'S SURFACE.

PLACE IS BUILT UP IN ANOTHER.

HE EARTH CAUSE MOUNTAINS TO RISE.

ENT MAY CAUSE MOUNTAINS TO RISE.

MENT CAN HELP TO RAISE MOUNTAINS.

MOLTEN ROCK WITHIN THE EARTH CAUSES THE CRUST TO RISE FORMING MOUNTAINS.

CONTRACTION CAN BREAK ROCKS.

ON AND CONTRACTION WITH HEAT AND COLD CAN BREAK DOWN ROCK.

S WITH ENOUGH FORCE TO BREAK ROCK, USING CAN, WATER AND BRICK.

E CONTRACTION OF ROCK, AND AND THE FORCE OF GROWING PLANTS, HELP BREAK DOWN ROCK.

ZING WATER BREAKS DOWN ROCKS.

EARTH, NAME EACH OF THE THREE LAYERS (CRUST, MANTLE, AND CORE) AND DESCRIBE

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0204315015      KNOW WHY THE EARTH'S ROCKS DEEP BELOW THE CRUST CAN       FLOW UNDER

0204315016      GIVEN A DESCRIPTION OF HOW A ROCK WAS FORMED, TELL        WHETHER TH
                METAMORPHIC.




0205315         GEOLOGY

0205315001      CONSTRUCT MODEL OF EARTH.  FILL BALLOON WITH TOOTHPASTE  FORM MODEL

0205315002      IDENTIFY PARTS OF MODEL TO REPRESENT LAYERS OF EARTH AS  CRUST, MAN

0205315003      DEMONSTRATE HOW LAYERS OF SEDIMENT FORMED.  MIX WATER,    PEBBLES, G
                PARTICLES ACCUMULATE NEAR BOTTOM.

0205315004      DESCRIBE THIS ACTIVITY AS A MODEL OF HOW LAYERS OF        SEDIMENT F

0205315005      KNOW THAT THE EARTH IS CONTINUALLY CHANGING.

0205315006      LEARN ABOUT EARTH'S INTERIOR BY MAKING A DIAGRAMMATIC     MODEL.

0205315007      RELATE THE EARTH'S STRUCTURE TO A THREE DIMENSIONAL       MODEL.

0205315008      KNOW THAT HEAT AND PRESSURE GENERATED WITHIN THE EARTH    RESULT IN

0205315009      KNOW THAT BREAKING UP OF RADIOACTIVE ATOMS WITHIN THE     EARTH RELE
                PRESSURE.

0205315010      KNOW THAT PRESSURES ON AND WITHING THE EARTH UPLIFT THE  EARTH'S CR

0205315011      RELATE INSIDE AND OUTSIDE PRESSURES TO MOUNTAIN           BUILDING.
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EP BELOW THE CRUST CAN FLOW UNDER PRESSURE.

ROCK WAS FORMED, TELL WHETHER THE ROCK IS IGNEOUS, SEDIMENTARY, OR

LL BALLOON WITH TOOTHPASTE FORM MODELING CLAY AROUND BALLOON.

PRESENT LAYERS OF EARTH AS CRUST, MANTLE, CORE.

IMENT FORMED. MIX WATER, PEBBLES, GRAVEL, SAND AND ALLOW TO SETTLE HEAVY
TOM.

ODEL OF HOW LAYERS OF SEDIMENT FORM IN OCEANS.

UALLY CHANGING.

BY MAKING A DIAGRAMMATIC MODEL.

TO A THREE DIMENSIONAL MODEL.

ENERATED WITHIN THE EARTH RESULT IN CHANGES OF ITS SURFACE.

DACTIVE ATOMS WITHIN THE EARTH RELEASES ENORMOUS HEAT, CREATING TREMENDOUS

THING THE EARTH UPLIFT THE EARTH'S CRUST.

SSURES TO MOUNTAIN BUILDING.

0205315012	RELATE PRESSURES TO THE BENDING OF ROCK LAYERS.
0205315013	DISCOVER THAT ROCKS MAY BE GROUPED BY THEIR ORIGIN.
0205315014	KNOW THAT THE COMPOSITION OF THE EARTH'S ROCKS IS DETERMINE
0205315015	KNOW THAT ROCKS MAY BE IDENTIFIED BY THEIR MINERAL COMPOSITI
0205315016	MAKE A ROCK COLLECTION NAMEING AND CLASSIFYING EACH ROCK.
0205315017	DEMONSTRATE THE HARDNESS OF VARIOUS MINERALS BY USING A SCALE F
0205315018	CONSTRUCT A SCALE OF RELATIVE HARDNESS FROM SEVERAL MINERALS.
0205315019	RELATE OIL DEPOSITS TO SEDIMENTATION IN ANCIENT TIMES.
0205315020	DO INDEPENDENT RESEARCH ON HOW THE STORED ENERGY FROM THE SUN I PAST IMPORTANT TO THE PRESENT.

0206315	GEOLOGY
0206315001	KNOW THAT SUBSTANCES (MINERALS) IN THE EARTH'S CRUST CAN BE AL

G OF ROCK LAYERS.

UPED BY THEIR ORIGIN.

HE EARTH'S ROCKS IS DETERMINED BY THE MANNER IN WHICH THEY WERE FORMED.

IED BY THEIR MINERAL COMPOSITION.

AND CLASSIFYING EACH ROCK.

RIOUS MINERALS BY USING A SCALE FOR MEASURING HARDNESS.

HARDNESS FROM SEVERAL MINERALS.

TATION IN ANCIENT TIMES.

THE STORED ENERGY FROM THE SUN IS TRANSFORMED INTO COAL AND OIL, MAKING THE

) IN THE EARTH'S CRUST CAN BE ALTERED TO PRODUCE NEW MATERIALS.

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0205320          HUMAN BODY (BEHAVIOR)

0205320001       GIVEN A SIMPLE GRAPH ON WHICH A SERIES OF TEST SCORES    HAS BEEN
                 BETWEEN TESTS.

0205320002       GIVEN LIST OF ORDINARY, EVERYDAY ACTS PERFORMED BY       ANIMALS
                 THOSE THAT ARE LEARNED AND THOSE THAT ARE UNLEARNED      (REFLEX)

0205320003       GIVEN SEVERAL WAYS OF IMPROVING A LEARNED BEHAVIOR,      RECOGNIZE
                 PROGRESS IN GIVEN PERIOD OF TIME, AND CHOOSE REASON WHY  YOUR CHO

0205320004       DEMONSTRATE DIFFERENCE (DISCRIMINATE) BETWEEN A STIMULUS AND A RES

0205320005       DEMONSTRATE IN A GIVEN EXPERIMENT INVOLVING STIMULUS AND RESPONSE
                 CONTROLLED AND THE ONES THAT ARE CHANGED.

0205320006       RECOGNIZE FROM GROUPS OF WORDS OR NUMBERS ONE GROUP      WHICH WOU
                 REASON WHY GROUP YOU SELECTED IS EASIEST TO REMEMBER.

0205320007       GIVEN LIST OF THINGS WHICH ARE PRESENT IN A PLACE OF     STUDY, EX
                 PREVENT LEARNING AND THOSE WHICH WILL PREVENT LEARNING.

0205320008       GIVEN AN EXPERIMENT ON PRACTICE AND MEMORIZATION,        RECOGNIZE
                 EXPERIMENT.

0205320009       GIVEN A LIST OF VARIABLES THAT WERE CONTROLLED IN AN     EXPERIMEN
                 REASONS THEY WERE CONTROLLED.

0205320010       EXPLAIN WAYS IN WHICH A GIVEN VARIABLE WAS CONTROLLED    IN AN EXP

0205320011       EXPLAIN WAYS IN WHICH A GIVEN VARIABLE WAS CONTROLLED IN AN EXPERI

0205320012       EXPLAIN WHICH VARIABLES WERE CONTROLLED IN AN EXPERIMENT ON FORGET

0205320013       GIVEN DESCRIPTION OF LEARNING SITUATION, RECOGNIZE       THOSE VAR
                 LEARN AND THOSE VARIABLES THAT MIGHT BOTHER YOU OR SLOW  DOWN YOUR

0205320014       GIVEN SEVERAL WAYS OF LEARNING, PREDICT WHICH YOU THINK  WOULD LEA
                 THROUGH EXPERIMENTAL PROCEDURES.
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ICH A SERIES OF TEST SCORES    HAS BEEN PLOTTED, EXPLAIN THE REASONS THE SCORES CHANGED

ERYDAY ACTS PERFORMED BY       ANIMALS AND HUMAN BEINGS, RECOGNIZE DIFFERENCE BETWEEN
 THOSE THAT ARE UNLEARNED      (REFLEX).

ROVING A LEARNED BEHAVIOR,     RECOGNIZE ONE WHICH WOULD HELP YOU SHOW THE MOST
F TIME, AND CHOOSE REASON WHY  YOUR CHOICE IS A GOOD ONE.

SCRIMINATE) BETWEEN A STIMULUS AND A RESPONSE IN A GIVEN SITUATION.

PERIMENT INVOLVING STIMULUS AND RESPONSE IN LIVING THINGS, THE VARIABLES THAT ARE
AT ARE CHANGED.

ORDS OR NUMBERS ONE GROUP      WHICH WOULD PROBABLY BE MOST EASILY MEMORIZED   EXPLAIN
CTED IS EASIEST TO REMEMBER.

 ARE PRESENT IN A PLACE OF     STUDY, EXPLAIN DIFFERENCE BETWEEN THOSE WHICH WILL NOT
 WHICH WILL PREVENT LEARNING.

ACTICE AND MEMORIZATION,       RECOGNIZE THE VARIABLES THAT WERE CONTROLLED IN THE

 THAT WERE CONTROLLED IN AN    EXPERIMENT ON PRACTICE AND MEMORIZATION, EXPLAIN THE
LED.

IVEN VARIABLE WAS CONTROLLED   IN AN EXPERIMENT ON PRACTICE AND MEMORIZATION.

IVEN VARIABLE WAS CONTROLLED IN AN EXPERIMENT ON PRACTICE AND MEMORIZATION.

ERE CONTROLLED IN AN EXPERIMENT ON FORGETTING AND RELEARNING.

NING SITUATION, RECOGNIZE      THOSE VARIABLES THAT MIGHT MAKE IT EASIER FOR YOU TO
 THAT MIGHT BOTHER YOU OR SLOW DOWN YOUR RATE OF LEARNING.

RNING, PREDICT WHICH YOU THINK WOULD LEAD TO BEST RESULTS AND TEST YOUR PREDICTION
EDURES.
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0205320015      GIVEN DIFFERENT FORMS OF GRAPHS SHOWING TFST SCORES,      EXPLAIN W
                INTERPRET WHAT THE SCORES MEAN.

0205320016      GIVEN DIFFERENT FORMS OF GRAPHS SHOWING TFST SCORES,      EXPLAIN W
                INTERPRET WHAT THE SCORES MEAN.



0206320         HUMAN BODY (BEHAVIOR)

0206320001      KNOW THAT PAST EXPERIENCES PROVIDE INSIGHT INTO METHODS  OF SOLVIN

0206320002      THE CHILD WILL DEMONSTRATE HOW INSIGHT DFVELOPS- AS HE    TRIES TO
                MUCH WATER WILL BE DISPLACED.

0206320003      KNOW THAT HABITS ARE LEARNED ACTS THAT HAVE BECOME        AUTOMATIC

0206320004      THE CHILD WILL CONSTRUCT A HYPOTHESIS, INDICATING         WHETHER O
                DECREASE SMOOTHLY WITH PRACTICE.

0206320005      DEMONSTRATE IMPORTANCE OF REGULAR PRACTICE   COMPARE      RESULTS O
                ANOTHER WHO HAS PRACTICED.

0206320006      THE CHILD WILL DEMONSTRATE THAT LEARNING CAN LEAD TO AN  AUTOMATIC
                COMPLETE THE ACT TO DECREASE WITH PRACTICF.

0206320007      KNOW THAT DEVELOPMENT OF A HABIT REQUIRES PRACTICE.

0206320008      THE CHILD WILL DESCRIBE THAT REGULAR PRACTICE HELPS IN   FORMING A

0206320009      KNOW THAT LEARNING IS IMPROVED BY THE DEVFLOPMENT OF     EFFICIENT

0206320010      KNOW THAT GOOD STUDY HABITS REQUIRE THE PROPER TOOLS,    EQUIPMENT

0206320011      KNOW THAT DEVELOPMENT OF A HABIT REQUIRES THE PROPER     CONDITIONS
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S SHOWING TEST SCORES, EXPLAIN WHICH FORMS CAN BE COMPARED MOST EASILY AND
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S SHOWING TEST SCORES, EXPLAIN WHICH FORMS CAN BE COMPARED MOST EASILY AND
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VIDE INSIGHT INTO METHODS OF SOLVING A PROBLEM AND ACHIEVING A GOAL.

INSIGHT DEVELOPS- AS HE TRIES TO SOLVE A PROBLEM, USING A JAR- FOR DETERMING HOW

CTS THAT HAVE BECOME AUTOMATIC.

OTHESIS, INDICATING WHETHER OR NOT THE TIME TO COMPLETE THE ACT WILL
E.

LAR PRACTICE COMPARE RESULTS OF WRITING NAME WITH OPPOSITE HAND AGAINST

T LEARNING CAN LEAD TO AN AUTOMATIC ACT (TYING OF A BOW KNOT), CAUSING THE TIME TO
ITH PRACTICE.

IT REQUIRES PRACTICE.

EGULAR PRACTICE HELPS IN FORMING A NEW HABIT.

BY THE DEVELOPMENT OF EFFICIENT HABITS OF STUDY.

QUIRE THE PROPER TOOLS, EQUIPMENT, AND SURROUNDINGS.

IT REQUIRES THE PROPER CONDITIONS AND SURROUNDINGS.

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0206320012      INFER THAT DEVELOPMENT OF GOOD STUDY HABITS RESULTS IN   MORE EFF

0206320013      THE CHILD WILL DESCRIBE THAT HE CANNOT PREVENT THIS      REFLEX BY
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STUDY HABITS RESULTS IN MORE EFFICIENT LEARNING.

E CANNOT PREVENT THIS REFLEX BY THINKING ABOUT IT.

0204325	HUMAN BODY (CIRCULATORY)
0204325001	USING THE TERMS ARTERIES, VEINS, CAPILLARIES, AND HEART, DESCRIBE HO
0205325	HUMAN BODY (CIRCULATORY)
0205325001	KNOW THAT THE CIRCULATORY SYSTEM WORKS IN CONJUNCTION WITH THE D THE CELLS WITH SUBSTANCES THEY NEED.

NS, CAPILLARIES, AND HEART, DESCRIBE HOW THE BLOOD TRAVELS IN THE BODY.

STEM WORKS IN CONJUNCTION WITH THE DIGESTIVE AND RESPIRATORY SYSTEMS TO PROVIDE
Y NEED.

0204335 HUMAN BODY (DIET)

0204335001 TELL WHY WE NEED NUTRIENTS AND HOW THEY DIFFER FROM WASTES.

0204335002 CONDUCT TESTS TO FIND OUT WHETHER A FOOD IS MAINLY CARBOHYDR

0204335003 CLASSIFY A FAMILIAR FOOD AS BELONGING TO ONE OF THE FOLLOWING
VEGETABLE-FRUIT.

0204335004 FROM LIST OF FOODS, IDENTIFY BEST SOURCES OF PROTEIN, CARBOHYDR

0204335005 EXPLAIN WHETHER FOOD EATEN IN ONE DAY BY A CHILD IS A BALANCED

0204335006 PLAN A WELL-BALANCED DIET FOR A DAY.

0205335 HUMAN BODY (DIET)

0205335001 KNOW THAT CERTAIN DISEASES ARE AVOIDED OR CURED BY ADEQUATE

0205335002 INFER THE IMPORTANCE OF HAVING A BALANCED DIET EVERY DAY.

0205335003 REALIZE THE NEED FOR FOODS RICH IN CERTAIN SUBSTANCES.

0205335004 INFER THE NUTRITIONAL VALUES OF FOOD SUBSTANCES IN MILK.

0205335005 MAKE A POSTER SHOWING VITAMINS AND THEIR SOURCES.

0206335 HUMAN BODY (DIET)

0206335001 MATCH ESSENTIAL NUTRIENT WITH THE FOOD WHICH CAN PROVIDE MAJOR AMO

HOW THEY DIFFER FROM WASTES.
HER A FOOD IS MAINLY CARBOHYDRATE, FAT, OR PROTEIN.
LONGING TO ONE OF THE FOLLOWING FOOD GROUPS MILK, MEAT, BREAD-CEREAL, OR
EST SOURCES OF PROTEIN, CARBOHYDRATE, AND FAT.
ONE DAY BY A CHILD IS A BALANCED DIET. IF NOT, TELL WHAT IS MISSING.
A DAY.

AVOIDED OR CURED BY ADEQUATE AMOUNTS OF VITAMINS.
A BALANCED DIET EVERY DAY.
H IN CERTAIN SUBSTANCES.
F FOOD SUBSTANCES IN MILK.
AND THEIR SOURCES.

THE FOOD WHICH CAN PROVIDE MAJOR AMOUNT OF THAT NUTRIENT.

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0206335002      KNOW THAT HARMFUL BACTERIA IN MILK ARE DESTROYED BY      PASTEURIZ
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TROYED BY PASTEURIZATION.

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0204340        HUMAN BODY (DIGESTIVE)

0204340001     ON DRAWING OF DIGESTIVE SYSTEM, IDENTIFY MOUTH, TEETH,   TONGUE,



0205340        HUMAN BODY (DIGESTIVE)

0205340001     KNOW THAT DIGESTION BEGINS AS FOOD IS BROKEN INTO        SMALLE

0205340002     KNOW THAT OUR DIGESTIVE ORGANS MAKE OUR FOOD READY TO    MOVE T

0205340003     KNOW THAT THE ORGANS OF THE DIGESTIVE SYSTEM WORK        TOGETHE

0205340004     DESCRIBE THAT SUBSTANCE IN SALIVA IS RESPONSIBLE FOR     CHANGIN

0205340005     COMPLETE AN INVESTIGATION USING BENEDICTS SOLUTION TO    SHOW HO

0205340006     DEMONSTRATE HOW STARCH IS CHANGED TO SUGAR.  TEST AND    SHOW AB
               SOLUTION, SALIVA, PRESENCE IN STARCH AND SALIVA SOLUTION (SET FO

0205340007     REPORT WRITTEN OR ORALLY WHAT HAPPENS TO FOOD IN THE     MOUTH,



0206340        HUMAN BODY (DIGESTIVE)

0206340001     DEMONSTRATE ACTION OF ENZYME   MIX STARCH IN TWO TUBES,  ADD DIA
               ONE TURNS YELLOW-ORANGE.

0206340002     DEMONSTRATE ACTION OF BACTERIA IN STOMACH-USING FOOD-    GELATIN
               ONE, WATER TO OTHER, DETERMINE GROWTH.
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 IDENTIFY MOUTH, TEETH,   TONGUE, FOOD PIPE, STOMACH, AND INTESTINE.



OOD IS BROKEN INTO        SMALLER PARTICLES.

MAKE OUR FOOD READY TO    MOVE THROUGH MEMBRANES.

ESTIVE SYSTEM WORK        TOGETHER.

VA IS RESPONSIBLE FOR     CHANGING STARCH TO SUGAR.

G BENEDICTS SOLUTION TO   SHOW HOW SALIVA BREAKS DOWN STARCH.

GED TO SUGAR.  TEST AND   SHOW ABSENCE OF SUGAR WITH BENEDICTS SOLUTION IN STARCH
STARCH AND SALIVA SOLUTION (SET FOR 10 MINUTES).

HAPPENS TO FOOD IN THE    MOUTH, STOMACH, AND INTESTINES.




 MIX STARCH IN TWO TUBES, ADD DIASTASE TO ONE, TEST BOTH WITH BENEDICT'S SOLUTION,

 IN STOMACH-USING FOOD-   GELATIN.  ADD TEN DROPS OF WEAK HYDROCHLORIC ACID TO
 GROWTH.
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0206345	HUMAN BODY (DISEASE)
0206345001	KNOW THAT CERTAIN CELLS SECRETE SUBSTANCES THAT PROVIDE AN E
0206345002	INVESTIGATE THE FUNCTION OF EPITHELIAL CELLS THAT LINE THE
0206345003	KNOW THAT ANTIBIOTICS CHANGE THE ENVIRONMENT OF CERTAIN TYPE SURVIVAL.
0206345004	KNOW THAT THE FAVORABLE ENVIRONMENT FOR A VIRUS IS WITH
0206345005	KNOW THAT ONLY ANTIBODIES GIVE IMMUNITY.
0206345006	THE CHILD WILL DESCRIBE THAT HIS STOMACH CELLS MAKE A JUICE THIS COULD HELP REDUCE THE GROWTH OF BACTERIA.
0206345007	THE CHILD WILL DESCRIBE THAT ANTISEPTICS REDUCE THE GROW
0206345008	DEMONSTRATE PURIFYING WATER WITH CHEMICALS BY OBSERVING MICRO BLEACH TO THE SLIDE, KILLING THE ORGANISMS.
0206345009	IDENTIFY SOURCES OF INFORMATION TO ANSWER FOUR QUESTIONS ABOU
0206345010	GIVEN SENTENCE DESCRIBING SOME ACTIVITIES OF A MICRO HARMFUL TO MAN.
0206345011	KNOW THAT THE BODY, BY REFLEX ACTS, EXPELS BACTERIA AND OTHER
0206345012	KNOW THAT THE WHITE BLOOD CELLS ARE ONE OF THE BODY'S DEFEN
0206345013	NAME BODY'S LINES OF DEFENSE WHICH HELP IN RESISTING AND/O
0206345014	FIND THAT MOST GERMS DO NOT GROW WHEN AN ANTISEPTIC IS USED.

E SUBSTANCES THAT PROVIDE AN ENVIRONMENT UNFAVORABLE TO BACTERIA.

ITHELIAL CELLS THAT LINE THE BODY CAVITIES.

HE ENVIRONMENT OF CERTAIN TYPES OF MICROORGANISMS, MAKING IT UNFAVORABLE TO THEIR

NMENT FOR A VIRUS IS WITHIN THE BODY CELLS.

IMMUNITY.

IS STOMACH CELLS MAKE A JUICE WHICH CONTAINS WEAK HYDROCHLORIC ACID, AND THAT
WTH OF BACTERIA.

NTISEPTICS REDUCE THE GROWTH OF BACTERIA.

TH CHEMICALS BY OBSERVING MICROORGANISMS WITH A MICROSCOPE, WHILE ADDING CHLORINE
HE ORGANISMS.

N TO ANSWER FOUR QUESTIONS ABOUT KEEPING WATER AND FOOD FREE FROM BACTERIA.

ACTIVITIES OF A MICROORGANISM, TELL WHETHER ACTIVITIES ARE HELPFUL OR

ACTS, EXPELS BACTERIA AND OTHER IRRITANTS.

S ARE ONE OF THE BODY'S DEFENSES AGAINST INFECTION.

HICH HELP IN RESISTING AND/OR COMBATING DISEASE-CAUSING MICROORGANISMS.

OW WHEN AN ANTISEPTIC IS USED.

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0206345015     DEMONSTRATE ANTISPETICS USING FOOD-GELATIN, ADD DROPS OF DIFFERE
               WATER TO ONE AS A CONTROL, EXPOSED DISHES AND DETERMINE  GROWTH.

0206345016     KNOW THAT SOME DISEASES CAUSE THE BODY TO BUILD          IMMUNIT

0206345017     TELL DIFFERENCE BETWEEN STRUCTURES AND FUNCTIONS OF FOUR GENERAL
               FUNGUS, BACTERIA AND PROTOZOA.

0206345018     GIVEN EXAMPLES OF COMMON (HOUSEHOLD OR PROFESSIONAL)     MEDICAL
               ANTIBIOTICS ARE BEING USED TO COMBAT INFECTIOUS          BACTERI

0206345019     DESCRIBE HOW WATER AND FOOD ARE KEPT FREE FROM BACTERIA.

0206345020     WHEN GIVEN LIST OF SCIENTISTS (LOUIS PASTEUR, EDWARD     JENNER,
               ROBERT KOCH) AND THEIR SCIENTIFIC DISCOVERIES, MATCH     EACH SC

0206345021     TELL DIFFERENCE BETWEEN DEFINITIONS OF FOLLOWING TYPES   OF DISE

0206345022     GIVEN DESCRIPTION OF A PARTICULAR DISEASE AND THE WAY IT IS CONT
               NONCOMMUNICABLE.

0206345023     IDENTIFY WAYS IN WHICH SPECIFIC DISEASE CAUSING          ORGANIS
               ENTRY WITH AIR AND THROUGH SKIN).

0206345024     IDENTIFY THE MOST EFFECTIVE METHODS USED TO PREVENT THE  SPREAD
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NG FOOD-GELATIN, ADD DROPS OF DIFFERENT ANTISEPTICS TO DIFFERENT DISHES AND BOILED
EXPOSED DISHES AND DETERMINE GROWTH.

SE THE BODY TO BUILD IMMUNITY.

UCTURES AND FUNCTIONS OF FOUR GENERAL GROUPS OF DISEASE-CAUSING MICROORGANISMS. VIRUS,
OA.

OUSEHOLD OR PROFESSIONAL) MEDICAL PRACTICES, TELL WHETHER CHEMICALS, HEAT, OR
TO COMBAT INFECTIOUS BACTERIA.

ARE KEPT FREE FROM BACTERIA.

TS (LOUIS PASTEUR, EDWARD JENNER, JOSEPH LISTER, JONAS SALK, ALEXANDER FLEMING,
NTIFIC DISCOVERIES, MATCH EACH SCIENTIST WITH HIS DISCOVERY.

INITIONS OF FOLLOWING TYPES OF DISEASES ORGANIC, ALLERGIC, INFECTIOUS, DEFICIENCY.

ICULAR DISEASE AND THE WAY IT IS CONTRACTED, CLASSIFY DISEASE AS COMMUNICABLE OR

IFIC DISEASE CAUSING ORGANISMS ENTER THE BODY (ENTRY WITH WATER, MILK, FOOD
SKIN).

METHODS USED TO PREVENT THE SPREAD OF DISEASE.

0201350	HUMAN BODY (EAR)
0201350001	IDENTIFY THE FUNCTION OF THE EAR.
0203350	HUMAN BODY (EAR)
0203350001	IDENTIFY THESE PARTS OF THE EAR AND TELL WHAT THEY DO. OUTER EAR, DRUM, HAMMER, ANVIL, COCHLEA, AND NERVE.

AR.

R AND TELL WHAT THEY DO. OUTER EAR, MIDDLE EAR, INNER EAR, PINNA, EAR CANAL, EAR
AND NERVE.

0204355	HUMAN BODY (EXERCISE)
0204355001	SUGGEST SCHEDULE OF EXERCISES FOR ADULT TO DO TO REMAIN HEALTHY.

0201360 HUMAN BODY (EYE)

0201360001 IDENTIFY THE FUNCTION OF THE EYE.

0203360 HUMAN BODY (EYE)

0203360001 IDENTIFY THESE PARTS OF THE EYE AND TELL WHAT THEY DO. EYELID, TELL WHAT THEY DO. EYELID, EYELASHES, IRIS, PUPIL, AND TEAR DUCT.

0202365	HUMAN BODY (GROWTH)
0202365001	DESCRIBE GROWTH CHANGES, SINCE LAST YEAR, BY USING GROWTH
0202365002	DEMONSTRATE HEIGHT AND WEIGHT, BY USING A TAPE MEASURE AND SC

LAST YEAR, BY USING GROWTH AND WEIGHT MEASUREMENTS.

BY USING A TAPE MEASURE AND SCALE.

0206370 HUMAN BODY (HEALTH CONDITIONS)

0206370001 FROM LIST OF STATEMENTS, IDENTIFY THOSE WHICH DESCRIBE HEALTH C
STORY ABOUT HEALTH PROBLEMS IN UNDERDEVELOPED NATION.

IFY THOSE WHICH DESCRIBE HEALTH CONDITIONS IN AN UNDERDEVELOPED NATION. TELL A
UNDERDEVELOPED NATION.

0206375 HUMAN BODY (HEALTH AND SAFETY)

0206375001 LIST SEVEN EXAMPLES OF GOOD HEALTH AND SAFETY PRECAUTIONS
RESPONSIBLE FOR EACH ITEM LISTED.

HEALTH AND SAFETY   PRECAUTIONS AND EXPLAIN WHY YOU SHOULD OR SHOULD NOT BE
ISTED.

0200380	HUMAN BODY (LIFE ACTIVITIES)
0200380001	KNOW THAT HUMAN LIFE ACTIVITIES ARE COMMON WITH ALL LIVING THI
0200380002	DESCRIBE HIS OWN LIFE ACTIVITIES, IN COMMON WITH ALL LIVING THI HIS OWN ACTIVITIES WITH OTHER LIVING THINGS STUDIED.

S ARE COMMON WITH ALL LIVING THINGS.

ES, IN COMMON WITH ALL LIVING THINGS, BY OBSERVING BABY PICTURES AND COMPARING
LIVING THINGS STUDIED.

0204385	HUMAN BODY (MUSCULAR)
0204385001	EXPLAIN HOW OPPOSING MUSCLES IN MAN (INCLUDING THOSE OF ARM

AND LES IN MAN (INCLUDING THOSE OF ARM AND LEG) WORK TO CAUSE MOVEMENT OF BODY PARTS.

0205390	HUMAN BODY (NERVOUS)
0205390001	KNOW THAT THE NERVOUS SYSTEM SERVES TO COORDINATE THE SYSTEMS O
0206390	HUMAN BODY (NERVOUS)
0206390001	IDENTIFY THE LOCATIONS AND FUNCTIONS OF MAJOR PARTS OF CENTRAL NE MEDULLA) AND SPINAL CORD.

TH S TO COORDINATE THE SYSTEMS OF THE BODY.

RVO NS OF MAJOR PARTS OF CENTRAL NERVOUS SYSTEM BRAIN (CEREBELLUM, CEREBRUM,

0201395	HUMAN BODY (NOSE)
0201395001	IDENTIFY THE FUNCTION OF THE NOSE.

0204400 HUMAN BODY (POSTURE)

0204400001 NAME TWO HEALTH REASONS FOR GOOD POSTURE AND TELL IF A PERSON I
AND SITTING.

S GOOD POSTURE AND TELL IF A PERSON IS SHOWING PROPER POSTURE IN STANDING, WALKING,

0206405	HUMAN BODY (REFLEX)
0206405001	DEMONSTRATE A REFLEX ACTION BY HOLDING CELLOPHANE IN FRONT O A BALL OF PAPER GENTLY AGAINST IT.
0206405002	DEMONSTRATE A SIMPLE REFLEX, BY SITTING WITH LEGS HANGIN BELOW THE KNEE WITH THE EDGE OF THE PALM.

ION BY HOLDING CELLOPHANE IN FRONT OF HIS EYES AND ALLOWING ANOTHER STUDENT TO THROW
GAINST IT.

LEX, BY SITTING WITH LEGS HANGING LOOSELY, ALLOWING ANOTHER CHILD TO TAP HIM JUST
EDGE OF THE PALM.

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0204410          HUMAN BODY (RESPIRATORY)

0204410001       DESCRIBE NORMAL FLOW OF AIR IN AND OUT OF HUMAN          RESPIRATOR
                 PASSAGE, AND WINDPIPE.


0205410          HUMAN BODY (RESPIRATORY)

0205410001       THROUGH OBSERVATION, INFER THAT RATES OF BREATHING MAY   DIFFER.

0205410002       KNOW THAT THE AMOUNT OF AIR THAT CAN BE INHALED IS       DETERMINE

0205410003       READ A CHART TO DETERMINE DIFFERENCES IN INHALED AND     EXHALED AI

0205410004       DISTINGUISH RATE OF BREATHING FROM OTHERS.  COMPARE      RATES.

0205410005       DESCRIBE RATE OF BREATHING.  COUNT NUMBER OF TIMES HE    INHALES IN

0205410006       CONSTRUCT TABLE OF BREATHING RATES.  INDICATE NUMBER OF  CHILDREN A

0205410007       DEVISE AN INVESTIGATION TO HELP ANSWER THE FOLLOWING     QUESTION

0205410008       DEVISE AN INVESTIGATION TO HELP ANSWER THE FOLLOWING     QUESTION

0205410009       DEVISE AN INVESTIGATION TO HELP ANSWER THE FOLLOWING     QUESTION
                 RATE OF BREATHING

0205410010       KNOW THAT ALTHOUGH THE AMOUNT OF OXYGEN IN FRESH AIR     REMAINS AB
                 LESS.

0205410011       KNOW THAT THE ORGANS OF THE RESPIRATORY SYSTEM ARE SO    STRUCTURE
                 CONTINUOUS SUPPLY OF OXYGEN.
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AND OUT OF HUMAN RESPIRATORY SYSTEM, USING THE TERMS LUNGS, NOSE, NASAL

RATES OF BREATHING MAY DIFFER.

T CAN BE INHALED IS DETERMINED BY THE EXPANSION OF THE LUNGS.

ERENCES IN INHALED AND EXHALED AIR.

ROM OTHERS. COMPARE RATES.

UNT NUMBER OF TIMES HE INHALES IN ONE MINUTE.

TES. INDICATE NUMBER OF CHILDREN AND DIFFERENT RATES.

P ANSWER THE FOLLOWING QUESTION DOES EVERYONE INHALE AT THE SAME RATE

P ANSWER THE FOLLOWING QUESTION DOES EXERCISE AFFECT BREATHING RATE

P ANSWER THE FOLLOWING QUESTION CAN YOU DETERMINE AN AVERAGE OR NORM IN THE

OF OXYGEN IN FRESH AIR REMAINS ABOUT THE SAME, THE AMOUNT IN EXHALED AIR IS

SPIRATORY SYSTEM ARE SO STRUCTURED THAT THEY PROVIDE THE BODY CELLS WITH A

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0204415         HUMAN BODY (SKELETAL)

0204415001      IN DRAWING, IDENTIFY SKULL, BACKBONE, RIBS, SHOULDER    BLADE, U
                THIGHBONE, KNEECAP, SHINBONE, HEEL BONE, TOE AND FINGER  BONES.


0205415         HUMAN BODY (SKELETAL)

0205415001      KNOW THAT THE SKELETAL AND MUSCULAR SYSTEMS PROVIDE THE  BODY SUP


0206415         HUMAN BODY (SKELETAL)

0206415001      IN DIAGRAM OF HUMAN SKELETON, LOCATE SKULL, RIB CAGE,    BACKBONE,
                PHALANGES.

0206415002      GIVEN DIAGRAM OF SKELETON, LOCATE FOUR KINDS OF JOINTS.  HINGE, B
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ACKBONE, RIBS, SHOULDER BLADE, UPPER ARM BONE, LOWER ARM BONES, HIPBONE,
HEEL BONE, TOE AND FINGER BONES.

SCULAR SYSTEMS PROVIDE THE BODY SUPPORT AND PROTECTION AND ENABLE IT TO MOVE ABOUT

LOCATE SKULL, RIB CAGE, BACKBONE, PELVIS, FEMUR, TIBIA, FIBULA, RADIUS, ULNA,

CATE FOUR KINDS OF JOINTS. HINGE, BALL-AND-SOCKET, IMMOVABLE, AND PIVOT JOINTS.

0204420	HUMAN BODY (SKIN, HAIR, TEETH, NAILS)
0204420001	DESCRIBE HOW TO TAKE PROPER CARE OF SKIN, TEETH, HAIR, AND NA GOOD HEALTH.
0206420	HUMAN BODY (SKIN, HAIR, TEETH, NAILS)
0206420001	INVESTIGATE THE PROTECTIVE FUNCTIONS OF THE EPITHELIAL CELLS

EETH, NAILS)

ER CARE OF SKIN, TEETH, HAIR, AND NAILS. NAME TWO REASONS WHY THIS IS IMPORTANT FOR

EETH, NAILS)

E FUNCTIONS OF THE EPITHELIAL CELLS THAT COVER OUTER BODY SURFACES.

0204425	HUMAN BODY (SYSTEMS)
0204425001	IN A DRAWING OF HUMAN BODY, FIND AND NAME FIVE SYSTEMS OF THE
0204425002	MATCH HUMAN BODY SYSTEMS (SKELETAL, MUSCULAR, DIGESTIVE, CIRCULA
0205425	HUMAN BODY (SYSTEMS)
0205425001	VISUALIZE THE BODY AS MORE THAN A MASS OF CELLS---RATHER AS AN O
0205425002	KNOW THAT THE ORGAN SYSTEMS WORK TOGETHER IN PERFORMING THE BOD
0205425003	KNOW THAT THE EXCRETORY SYSTEM ENABLES THE OTHER SYSTEMS TO MAIN CELL OXIDATION.
0206425	HUMAN BODY (SYSTEMS)
0206425001	MATCH SYSTEMS OF HUMAN BODY (DIGESTIVE, CIRCULATORY, RESPIRA SKELETAL, MUSCULAR, AND SKIN) WITH IMPORTANT GENERAL FUNCTIO

OD FIND AND NAME FIVE SYSTEMS OF THE BODY.

OR KELETAL, MUSCULAR, DIGESTIVE, CIRCULATORY, AND RESPIRATORY) TO THEIR MAJOR FUNCTIONS.

GA THAN A MASS OF CELLS---RATHER AS AN ORGANIZED STRUCTURE.

S WORK TOGETHER IN PERFORMING THE BODY'S FUNCTIONS.

AI TEM ENABLES THE OTHER SYSTEMS TO MAINTAIN A BALANCE BY REMOVING UNDESIRABLE WATES OF

OR (DIGESTIVE, CIRCULATORY, RESPIRATORY, NERVOUS, REPRODUCTIVE, GLAND, EXCRETORY,
S N) WITH IMPORTANT GENERAL FUNCTIONS OF EACH.

0205430	HUMAN BODY (TEMPERATURE)	
0205430001	CONSTRUCT A TABLE OF TEMPERATURE READINGS COLLECTED, OUTDOORS AND INDOORS.	INDICATI
0205430002	DEMONSTRATE BODY'S ADAPTATION FOR STEADY TEMPERATURE BY A WEEK SHOWING THAT BODY TEMPERATURE VARIES LITTLE	MEASURIN COMPARED
0205430003	OBSERVE, INVESTIGATE, AND ANALYZE THE IMPORTANCE OF AN	EVEN BOD

E READINGS COLLECTED, INDICATING DAY OF READING AND AIR AND BODY TEMPERATURES

OR STEADY TEMPERATURE BY MEASURING BODY AND AIR TEMPERATURES, IN- AND OUTDOOR FO
ATURE VARIES LITTLE COMPARED TO AIR TEMPERATURE.

ZE THE IMPORTANCE OF AN EVEN BODY TEMPERATURE.

0201435	HUMAN BODY (TONGUE)
0201435001	IDENTIFY THE FUNCTIONS OF THE TONGUE.

0206440	HUMAN BODY (WATER)
0206440001	KNOW THAT BACTERIA MAY BE CHEMICALLY REMOVED FROM WATER TO MA
0206440002	KNOW THAT MANY HARMFUL BACTERIA AND UNDESIRABLE SOLIDS ARE R

E ICALLY REMOVED FROM WATER TO MAKE IT SUITABLE FOR DRINKING.

M A AND UNDESIRABLE SOLIDS ARE REMOVED FROM WATER BY FILTRATION.

0200445	INSECTS
0200445001	KNOW THAT A MOTH IS ONE KIND OF INSECT, AND THAT ALL INSECTS H SKELETON.
0200445002	DESCRIBE THAT A MOTH IS ONE KIND OF INSECT, AND THAT ALL INSECTS H SKELETON.
0200445003	KNOW THAT THE CATERPILLAR HATCHED FROM TINY EGGS PRODUCED
0200445004	DESCRIBE HOW THE CATERPILLAR HATCHED FROM TINY EGGS PRODUCED
0200445005	DESCRIBE THE LIFE CYCLE OF A MOTH, BY OBSERVING LIVE CATERPILL CHANGE INTO ADULTS.
0200445006	KNOW THE LIFE CYCLE OF A MOTH.
0203445	INSECTS
0203445001	RECOGNIZE WHEN A PICTURE OF AN INSECT IS IN AN ADULT, EGG, LARV THEY OCCUR.
0204445	INSECTS
0204445001	RECOGNIZE THE BODY PARTS OF AN INSECT YOU CHOOSE TO STUDY.
0206445	INSECTS
0206445001	DEMONSTRATE COLLECTION OF FRUIT FLIES IN WARM SEASON. ATTRACT W COTTON OR CLOTH.
0206445002	DESCRIBE DIFFERENT CHARACTERISTICS OF FRUIT FLIES. USE MAGNIFYIN

ND OF INSECT, AND THAT ALL INSECTS HAVE SIX LEGS, USUALLY WINGS, AND AN OUTSIDE

E KIND OF INSECT, AND THAT ALL INSECTS HAVE SIX LEGS, USUALLY WINGS, AND AN OUTSIDE

HATCHED FROM TINY EGGS PRODUCED BY THE ADULT MOTH.

AR HATCHED FROM TINY EGGS PRODUCED BY THE ADULT MOTH.

A MOTH, BY OBSERVING LIVE CATERPILLARS AS THEY MOVE, FEED, SPIN COCOONS, AND

OTH.

F AN INSECT IS IN AN ADULT, EGG, LARVA OR PUPA STAGE. RECOGNIZE THE ORDER IN WHICH

F AN INSECT YOU CHOOSE TO STUDY.

FRUIT FLIES IN WARM SEASON. ATTRACT WITH RAW OR COOKED FRUIT IN JAR. CLOSE JAR WIT

ERISTICS OF FRUIT FLIES. USE MAGNIFYING GLASS.

0200450	INTERDEPENDENCE
0200450001	KNOW THE VARIETY OF PLANT AND ANIMAL MATERIALS IN THE SAME ENVI
0200450002	KNOW THAT PLANTS AND ANIMALS SHARE A COMMON ENVIRONMENT FROM WHIC GROW.
0200450003	KNOW PLANT-ANIMAL RELATIONSHIPS AND THEIR DEPENDENC
0200450004	DESCRIBE HOW PLANTS AND ANIMALS SHARE A COMMON ENVIRONME LIVE AND GROW.
0200450005	DEMONSTRATE THE VARIETY OF PLANT AND ANIMAL MATERIALS IN THE SAME NEIGHBORHOOD AREA.
0200450006	DESCRIBE PLANT-ANIMAL RELATIONSHIPS AND THEIR DEPENDENCE ON MAN, B
0204450	INTERDEPENDENCE
0204450001	KNOW HOW LIVING THINGS DEPEND ON OTHER LIVING THINGS FOR THEIR GREEN PLANTS.
0204450002	KNOW THE INHERITED CHARACTERISTICS OF A LIVING THING CAN DEVELO GROWING PLANT OR ANIMAL CAN INTERCHANGE MATTER AND ENERGY WIT
0204450003	INFER OR DEMONSTRATE WAYS IN WHICH PLANTS AND ANIMALS MAY BE INT GREEN PLANTS OR THEIR PRODUCTS FOR FOOD.
0205450	INTERDEPENDENCE
0205450001	KNOW THAT ANIMALS ARE DEPENDENT ON THE OXYGEN GREEN PLANTS GIV
0205450002	GAIN INSIGHT INTO THE INTERDEPENDENCE OF ORGANISMS AND THIER ENVI
0205450003	KNOW THAT LIVING THINGS OBTAIN FROM ONE ANOTHER AND FROM THE ENVIRO GROWTH AND ACTIVITY.

MATERIALS IN THE SAME ENVIRONMENT.

COMMON ENVIRONMENT FROM WHICH THEY GET THE THINGS THEY NEED TO LIVE AND

HEIR DEPENDENCE ON MAN.

A COMMON ENVIRONMENT FROM WHICH THEY GET THE THINGS THEY NEED TO

ANIMAL MATERIALS IN THE SAME ENVIRONMENT, BY COLLECTING MATERIALS FROM THE

ND THEIR DEPENDENCE ON MAN, BY VISITING AND OBSERVING LIFE ON A FARM.

R LIVING THINGS FOR THEIR FOOD, IN FOOD CHAINS THAT IN THE END DEPEND O

A LIVING THING CAN DEVELOP ONLY IN THE KIND OF ENVIRONMENT IN WHICH TH
GE MATTER AND ENERGY WITH THE ENVIRONMENT.

ANTS AND ANIMALS MAY BE INTERDEPENDENT. NONGREEN PLANTS ARE DEPENDENT O
OD.

E OXYGEN GREEN PLANTS GIVE OFF DURING PHOTOSYNTHESIS.

OF ORGANISMS AND THIER ENVIRONMENTS.

NE ANOTHER AND FROM THE ENVIRONMENT THE MATTER AND ENERGY THEY NEED FOR

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0205450004     REALIZE THAT ANIMALS AND PLANTS IN A SEALED ENVIRONMENT  DEPEND U
               CYCLE IS ESSENTIAL IN THEIR ENVIRONMENT.

0205450005     CONSTRUCT A SEALED-IN MODEL USING FISH AND PLANT LIFE    TO SHOW
               ABLE TO RELATE THIS MODEL TO THE SEALED-IN ENVIRONMENT   OF THE E

0205450006     KNOW THAT INTERDEPENDENCE OF LIVING THINGS WITH THEIR    ENVIRONM
               IN A CHEMICAL CHANGE.

0205450007     KNOW THAT WAYS OF LIFE TODAY ARE RELATED TO THE          INTERDEP
               ENVIRONMENT.

0205450008     REASON FROM PRIOR WORK THAT ANIMAL FIBERS ARE DEPENDENT  ON EARLI




0206450        INTERDEPENDENCE

0206450001     KNOW THAT LIVING THINGS ARE INTERDEPENDENT.


0206450002     KNOW THAT LIVING THINGS ARE INTERDEPENDENT WITH ONE      ANOTHER


0206450003     KNOW THAT IN ATTEMPTS TO UNDERSTAND THE WORLD IN WHICH   HE LIVES,
               THAT LIVING THINGS ARE INTERDEPENDENT WITH ONE ANOTHER   AND THE
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ANTS IN A SEALED ENVIRONMENT DEPEND UPON ONE ANOTHER THE OXYGEN-CARBON-DIOXIDE
ENVIRONMENT.

USING FISH AND PLANT LIFE TO SHOW THE INTERDEPENDENCE OF ALL LIVING THINGS, BEING
THE SEALED-IN ENVIRONMENT OF THE EARTH.

LIVING THINGS WITH THEIR ENVIRONMENT IS RELATED TO THE TRANSFORMATION OF MATTER

Y ARE RELATED TO THE INTERDEPENDENCE OF ORGANISMS THAT LIVED IN AN ANCIENT

ANIMAL FIBERS ARE DEPENDENT ON EARLIER CAPTURE OF ENERGY BY GREEN PLANTS.

INTERDEPENDENT.

INTERDEPENDENT WITH ONE ANOTHER AND WITH THEIR ENVIRONMENT.

DERSTAND THE WORLD IN WHICH HE LIVES, MAN HAS DEVELOPED THE LARGE CONCEPTUAL SCHEME
RDEPENDENT WITH ONE ANOTHER AND THE ENVIRONMENT.

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0202455        LIGHT

0202455001     KNOW THAT A BEAM OF SUNLIGHT PASSED THROUGH A PRISM      (OR
               OF THE SPECTRUM.

0202455002     DEMONSTRATE THAT A BEAM OF SUNLIGHT PASSES THROUGH A     PRI
               COLORS OF THE SPECTRUM.

0202455003     KNOW THAT LIGHT TRAVELS IN A STRAIGHT LINE AND IS        REF
               MIRROR, CAUSING THE LIGHT SPOT TO BE OBSERVED IN ANOTHER DIR

0202455004     DEMONSTRATE THAT LIGHT TRAVELS IN A STRAIGHT LINE AND IS REF
               MIRROR, CAUSING THE LIGHT SPOT TO BE OBSERVED IN ANOTHER DIR

0202455005     KNOW THAT AN IMAGE IS REFLECTED IN THE MIRROR, AND       APP
               FRONT OF THE MIRROR.

0202455006     DEMONSTRATE THAT AN IMAGE IS REFLECTED IN THE MIRROR,    AND
               FRONT OF THE MIRROR, BY USING MIRROR AND YARDSTICK FOR   MEA

0202455007     KNOW THAT DIFFERENT AMOUNTS OF LIGHT PASS THROUGH        DIF

0202455008     DEMONSTRATE THAT DIFFERENT AMOUNTS OF LIGHT PASS THROUGH DIF
               TRANSPARENT, TRANSLUCENT, AND OPAQUE MATERIALS.


0203455        LIGHT

0203455001     GIVEN A SERIES OF PICTURES OF OBJECTS OR ACTUAL OBJECTS, REC


0204455        LIGHT

0204455001     KNOW THAT LIGHT AND SOUND ARE DIFFERENT FORMS OF ENERGY.

0204455002     DEMONSTRATE HOW WE KNOW THAT LIGHT IS A FORM OF ENERGY.

0204455003     KNOW THAT THE LIGHT ENERGY OF A CANDLE COMES FROM        PAR
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DIF  PASSED THROUGH A PRISM       (OR DIFFRACTION GRATING), AND IS SEPARATED INTO COLORS

N    NLIGHT PASSES THROUGH A      PRISM (OR DIFFRACTION GRATING), AND IS SEPARATED INTO

ICT  STRAIGHT LINE AND IS         REFLECTED WHEN A FLASHLIGHT BEAM IS DIRECTED AT A
CTI  T TO BE OBSERVED IN ANOTHER DIRECTION.

ICT  S IN A STRAIGHT LINE AND IS REFLECTED WHEN A FLASHLIGHT BEAM IS DIRECTED AT A
CTI  T TO BE OBSERVED IN ANOTHER DIRECTION.

ARS  ED IN THE MIRROR, AND        APPEARS AS FAR INTO THE MIRROR AS THE PERSON IS IN

APP  REFLECTED IN THE MIRROR,     AND APPEARS AS FAR INTO THE MIRROR AS THE STUDENT IS IN
URI   MIRROR AND YARDSTICK FOR    MEASURING.

IRE  F LIGHT PASS THROUGH         DIFFERENT MATERIALS.

IRE  OUNTS OF LIGHT PASS THROUGH DIFFERENT MATERIALS, BY USING A WIDE VARIETY OF
      OPAQUE MATERIALS.



GNI   OBJECTS OR ACTUAL OBJECTS, RECOGNIZE IF THE OBJECT PRODUCES OR REFLECTS LIGHT.



      DIFFERENT FORMS OF ENERGY.

      IGHT IS A FORM OF ENERGY.

FFI   A CANDLE COMES FROM         PARAFFIN.
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0204455004	KNOW THAT LIGHT ENERGY MAY BE RELEASED BY A CHEMICAL
0204455005	KNOW THAT CHEMICAL ENERGY CAN BECOME LIGHT ENERGY.
0204455006	KNOW THAT THE LIGHT ENERGY OF A CANDLE IS PRODUCED BY
0204455007	KNOW THAT LIGHT TRAVELS THROUGH SPACE.
0204455008	KNOW THAT OBJECTS BECOME VISIBLE AS LIGHT IS REFLECTED
0204455009	KNOW THAT LIGHT MUST REACH THE EYE TO BE SEEN.
0204455010	DEMONSTRATE THAT LIGHT TRAVELS IN A STRAIGHT LINE.
0204455011	OBSERVE THE BEHAVIOR OF LIGHT.
0204455012	KNOW THAT LIGHT ENERGY BEHAVES SOMETIMES AS WAVES, AND
0204455013	KNOW THAT LIGHT CAN BE POLARIZED BY CERTAIN MATERIALS.
0204455014	KNOW THAT LIGHT MAY BE BENT AS IT PASSES THROUGH CERTAIN
0204455015	DEMONSTRATE THAT LIGHT MAY BE BENT (REFRACTED) AS IT
0204455016	DEMONSTRATE HOW LIGHT CAN BE ABSORBED AND REFLECTED.
0204455017	DEMONSTRATE THAT LIGHT BOUNCES, BY USING A LIGHT SOURCE, AMOUNTS OF LIGHT TO REFLECT ONTO A DARKENED OBJECT.

HAN AY BE RELEASED BY A CHEMICAL CHANGE.

Y CAN BECOME LIGHT ENERGY.

HEM GY OF A CANDLE IS PRODUCED BY CHEMICAL CHANGE.

THROUGH SPACE.

ROM VISIBLE AS LIGHT IS REFLECTED FROM THEM TO THE EYE.

CH THE EYE TO BE SEEN.

RAVELS IN A STRAIGHT LINE.

LIGHT.

OME EHAVES SOMETIMES AS WAVES, AND SOMETIMES AS PARTICLES.

OLARIZED BY CERTAIN MATERIALS.

TE ENT AS IT PASSES THROUGH CERTAIN MATERIALS.

TE MAY BE BENT (REFRACTED) AS IT ENTERS OR LEAVES WATER.

AN BE ABSORBED AND REFLECTED.

RR OUNCES, BY USING A LIGHT SOURCE, MIRROR, WHITE PAPER, AND BLACK PAPER, CAUSING VARYING
ECT ONTO A DARKENED OBJECT.

0204455018	DESIGN EXPERIMENT TO SHOW WHETHER SUBSTANCES OR OBJECTS WITH D ABSORB MOST OF THE LIGHT WHICH FALLS ON THEM.
0204455019	DESCRIBE THE BEHAVIOR OF LIGHT IN TERMS OF REFLECTION OF BRI
0204455020	DEMONSTRATE THAT LIGHT CAN BE REFLECTED, ABSORBED, DIFFUS
0204455021	DEMONSTRATE THAT THE BEHAVIOR OF POLARIZED LIGHT IS EXPLAI
0204455022	DEMONSTRATE THAT LIGHT PASSES THROUGH ONE PIECE OF POLARI WHEN TWO PIECES ARE USED AND ONE IS TURNED.
0204455023	CONSTRUCT A DRAWING OF LIGHT RAYS PASSING THROUGH A LENS TO THE TO A POINT.
0204455024	DESCRIBE THE LENS AS FOCUSING THE LIGHT WHEN IT BRINGS LIGHT
0204455025	DEMONSTRATE THAT LIGHT RAYS BEND, BY CAUSING SUNLIGHT TO PASS T IT MAY BE HOT ENOUGH TO BURN PAPER.
0205455	LIGHT
0205455001	DISCOVER HOW MIRRORS COLLECT LIGHT.
0205455002	KNOW THAT A TELESCOPE MIRROR SERVES TO COLLECT LIGHT.
0205455003	KNOW THAT LIGHT COLLECTED BY A CURVED MIRROR CAN BE BROUGHT
0205455004	KNOW THAT LENSES AND PRISMS CAN CHANGE THE DIRECTION OF LIGHT.
0205455005	DEMONSTRATE THAT LIGHT WILL BOUNCE AT AN ANGLE OR STRAIG DIFFERENT ANGLES ONTO A MIRROR.

FF HER SUBSTANCES OR OBJECTS WITH DIFFERENT SURFACE TEXTURES AND COLORS REFLECT OR
FALLS ON THEM.

HT IN TERMS OF REFLECTION OF BRIGHT SURFACES AND ITS ABSORPTION BY DARK SURFACES.

D, REFLECTED, ABSORBED, DIFFUSED, AND BENT.

ED OF POLARIZED LIGHT IS EXPLAINED BY A WAVE MODEL.

ED THROUGH ONE PIECE OF POLARIZED PLASTIC, BUT ALTERNATELY STOPS AND PASSES
NE IS TURNED.

PA AYS PASSING THROUGH A LENS TO THE PAPER, ILLUSTRATING THAT THE RAYS BEND AND FOCUS

D THE LIGHT WHEN IT BRINGS LIGHT TO A POINT.

ROU ND, BY CAUSING SUNLIGHT TO PASS THROUGH A CONVEX LENS AND FORM A SMALL SPOT WHERE
APER.

IGHT.

SERVES TO COLLECT LIGHT.

TO A CURVED MIRROR CAN BE BROUGHT TO A FOCUS AND MAGNIFIED BY A LENS.

N CHANGE THE DIRECTION OF LIGHT.

B UNCE AT AN ANGLE OR STRAIGHT BACK TO THE SOURCE, BY SHINING A FLASHLIGHT AT

0205455006	MAKE A WORKABLE MODEL OF A PERISCOPE.
0205455007	KNOW THAT LIGHT TRAVELS IN STRAIGHT LINES. IT CAN BE BR PRISM.
0205455008	DO AN INVESTIGATION WITH A PRISM TO SHOW THAT WHITE LI THAT THE SPECTRUM HAS A SET PATTERN.
0205455009	NAME THE COLOR OF THE BANDS AS RED, ORANGE, YELLOW, GR
0205455010	DEMONSTRATE THAT BANDS OF COLORED LIGHT ARE FORMED AS SU
0205455011	KNOW THAT LIGHT CAN BE REFLECTED BY MIRRORS.
0205455012	DISCOVER THAT LIGHT MOVES IN A STRAIGHT LINE.
0205455013	DEMONSTRATE USING A LONG TUBE THAT LIGHT TRAVELS IN A ST
0205455014	KNOW THAT PARTS OF THE LIGHT SPECTRUM ARE INVISIBLE TH
0205455015	UNDERSTAND THE SHORTNESS OF WAVELENGTHS OF LIGHT.
0205455016	WRITE OR DISCUSS THIS TOPIC, 'THE WAVE THEORY OF LIGHT,' TH WAVE LENGTHS.
0205455017	KNOW THAT THE BEHAVIOR OF LIGHT MAY BE EXPLAINED AS THE MO
0205455018	INFER THAT THE NUMBER OF WAVES IS RELATED TO THE LENGTH OF
0205455019	KNOW THAT LIGHT BEHAVES AT TIMES AS PARTICLES, AND AT TI

A PERISCOPE.

KE IN STRAIGHT LINES. IT CAN BE BROKEN INTO A SPECTRUM OF COLORS AS IT PASSES THROUGH

HT A PRISM TO SHOW THAT WHITE LIGHT IS MADE OF MANY DIFFERENT COLORS OF LIGHT, AND
SET PATTERN.

EN NDS AS RED, ORANGE, YELLOW, GREEN, BLUE, AND VIOLET, AND THE TOTAL PATTERN SPECTRU

LI F COLORED LIGHT ARE FORMED AS SUNLIGHT PASSES THROUGH A GLASS PRISM.

EFLECTED BY MIRRORS.

S IN A STRAIGHT LINE.

AI TUBE THAT LIGHT TRAVELS IN A STRAIGHT LINE.

IR LIGHT SPECTRUM ARE INVISIBLE THEIR EXISTENCE CAN BE INFERRED FROM THEIR EFFECTS.

S OF WAVELENGTHS OF LIGHT.

S OPIC, 'THE WAVE THEORY OF LIGHT,' THIS SHOULD INCLUDE THE KNOWLEDGE OF COLORS RELATED T

ION F LIGHT MAY BE EXPLAINED AS THE MOTION OF WAVES THROUGH SPACE.

THE F WAVES IS RELATED TO THE LENGTH OF THE WAVE.

ES AT TIMES AS PARTICLES, AND AT TIMES AS WAVES.

0205455020 EXAMINE AN EXAMPLE OF LIGHT BEHAVING AS PARTICLES RATHER THAN AS

0205455021 WRITE OR DISCUSS THIS TOPIC, 'THE PARTICLE THEORY OF LIGHT.'

0205455022 RELATE WAVELENGTH TO THE COLOR SPECTRUM.

0205455023 COMPARE THE TWO THEORIES OF LIGHT AND BECOME AWARE THAT MORE EVI

0205455024 GIVEN TWO PIECES OF EVIDENCE, A AND B, DECIDE WHICH THEORY

0205455025 KNOW THAT THE LIGHT FROM THE STARS ENABLES US TO DETERMIN

0205455026 DEDUCE THAT DIFFERENT ELEMENTS PRODUCE DIFFERENT FLAME COLORS.

0205455027 INFER THAT LIGHT FROM THE STARS WAS EMITTED AT SOME TIME IN THE P

0205455028 KNOW THAT DISTANCES IN SPACE CAN BE MEASURED ACCURATELY BY USING

0205455029 DESCRIBE THAT LIGHT WAVES OR RADIO WAVES CAN BE USED TO MEASURE
TAKES TO BOUNCE WAVES OFF A DISTANT OBJECT.

0205455030 FIGURE WHAT A LIGHT YEAR IS USING MATH CONCEPTS.

0205455031 RECOGNIZE IN MULTIPLE CHOICE SITUATION THE SPEED OF LIGHT.

0205455032 OBSERVE OR PERFORM AN INVESTIGATION OF A FLAME SHOWING COLORS P

0205455033 DEMONSTRATE FLAME TEST FOR IDENTIFYING CHEMICAL SUBSTANC
OPEN FLAME CAUSING DIFFERENT COLORS TO BE FORMED AS THEY BURN.

VING AS PARTICLES RATHER THAN AS WAVES (ELECTRICAL ENERGY).

E PARTICLE THEORY OF LIGHT.'

PECTRUM.

T AND BECOME AWARE THAT MORE EVIDENCE IS NEEDED.

AND B, DECIDE WHICH THEORY OF LIGHT BEST EXPLAINS EACH.

RS ENABLES US TO DETERMINE THEIR COMPOSITION AND THEIR TEMPERATURE.

RODUCE DIFFERENT FLAME COLORS.

WAS EMITTED AT SOME TIME IN THE PAST.

BE MEASURED ACCURATELY BY USING THE SPEED OF LIGHT AS A YARDSTICK.

IO WAVES CAN BE USED TO MEASURE DISTANCES IN SPACE, BY MEASURING THE TIME IT
TANT OBJECT.

G MATH CONCEPTS.

UATION THE SPEED OF LIGHT.

TION OF A FLAME SHOWING COLORS PRODUCED WHEN DIFFERENT SUBSTANCES ARE PRESENT.

IFYING CHEMICAL SUBSTANCES BY HOLDING DIFFERENT CHEMICAL POWDERS IN AN
ORS TO BE FORMED AS THEY BURN.

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0206455        LIGHT

0206455001     RECOGNIZE WHICH ONE OF THE THREE MOST COMMON THEORIES   ABOUT TH
               THE WAY LIGHT TRAVELS.

0206455002     TELL HOW LIGHT AND THE PARTS OF YOUR EYE INTERACT TO    PRODUCE


0206455003     WHEN YOU ARE GIVEN INFORMATION ABOUT THE ROUGHNESS OR   SMOOTHNE
               REFLECT LIGHT IN A SCATTERED WAY AND WHICH WILL REFLECT IT IN A

0206455004     RECOGNIZE WHETHER SUBSTANCES OR OBJECTS WITH DIFFERENT  SURFACE
               LIGHT WHICH FALLS ON THEM OR WILL ABSORB IT.

0206455005     TELL WHETHER OBJECTS ARE TRANSPARENT, TRANSLUCENT, OR   OPAQUE.


0206455006     PREDICT ANGLE AT WHICH LIGHT WILL BE REFLECTED FROM A   SURFACE
               THAT SURFACE.

0206455007     RECOGNIZE DIAGRAMS THAT CORRECTLY ILLUSTRATE HOW WHITE  LIGHT IS
               CONCAVE AND CONVEX LENSES, (2) THROUGH PRISMS, AND (3)  THROUGH

0206455008     PREDICT THE KINDS OF IMAGES THAT WILL BE MADE BY CONVEX LENSES A
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MOST COMMON THEORIES ABOUT THE NATURE OF LIGHT IS DEMONSTRATED IN EXAMPLES O

YOUR EYE INTERACT TO PRODUCE AN IMAGE.

BOUT THE ROUGHNESS OR SMOOTHNESS OF SOME OBJECTS, RECOGNIZE WHICH ONES WILL
AND WHICH WILL REFLECT IT IN A REGULAR WAY.

OBJECTS WITH DIFFERENT SURFACE TEXTURES AND COLORS WILL REFLECT MOST OF THE
L ABSORB IT.

RENT, TRANSLUCENT, OR OPAQUE.

L BE REFLECTED FROM A SURFACE WHEN GIVEN THE ANGLE AT WHICH THAT LIGHT STRIKE

Y ILLUSTRATE HOW WHITE LIGHT IS BENT (REFRACTED) AS IT PASSES (1) THROUGH
HROUGH PRISMS, AND (3) THROUGH WATER.

WILL BE MADE BY CONVEX LENSES AND THE TYPES MADE BY CONCAVE LENSES.

0202460	MACHINES
0202460001	AFTER LEARNING WHAT MACHINES DO FOR THEM, DRAMATIZE WHAT THE WOR
0206460	MACHINES
0206460001	KNOW THAT THE AMOUNT OF ENERGY GOTTEN OUT OF A MACHINE DOES NO
0206460002	KNOW THAT MACHINES MAY MULTIPLY FORCE, INCREASE SPEED, OR CHAN
0206460003	VERIFY THE CONCEPT BY INVESTIGATING A DIFFERENT MACHINE.

FOR THEM, DRAMATIZE WHAT THE WORLD WOULD BE LIKE WITHOUT A PARTICULAR MACHINE.

OTTEN OUT OF A MACHINE DOES NOT EXCEED THE ENERGY PUT INTO IT.

FORCE, INCREASE SPEED, OR CHANGE DIRECTION.

ING A DIFFERENT MACHINE.

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0204465        MACHINES (COMPLEX)

0204465001     DISASSEMBLE A COMPLEX MACHINE AND IDENTIFY AT LEAST TWO  OF THE

0204465002     DISASSEMBLE A COMPLEX MACHINE AND DESCRIBE ORALLY AT     LEAST


0205465        MACHINES (COMPLEX)

0205465001     COMPARE POWER MACHINES WITH MANUAL MACHINES TO SHOW      ADVANTA


0206465        MACHINES (COMPOUND)

0206465001     KNOW THAT MOST COMPOUND MACHINES ARE MODIFICATIONS OR    COMBINA

0206465002     KNOW THAT COMPOUND MACHINES MULTIPLY THE FORCES OF THE   SIMPLE

0206465003     KNOW THAT BOTH PHYSICAL AND CHEMICAL CHANGES OCCUR IN    STEAM A

0206465004     KNOW THAT INTERNAL COMBUSTION ENGINES TRANSFER THE       FORCE O
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INE AND IDENTIFY AT LEAST TWO OF THE SIMPLE MACHINES INVOLVED.

INE AND DESCRIBE ORALLY AT LEAST TWO OF THE SIMPLE MACHINES INVOLVED.

H MANUAL MACHINES TO SHOW ADVANTAGES OR DISADVANTAGES OF EACH.

CHINES ARE MODIFICATIONS OR COMBINATIONS OF A FEW SIMPLE MACHINES.

S MULTIPLY THE FORCES OF THE SIMPLE MACHINES OF WHICH THEY CONSIST.

D CHEMICAL CHANGES OCCUR IN STEAM AND INTERNAL COMBUSTION ENGINES.

ION ENGINES TRANSFER THE FORCE OF KINETIC ENERGY DIRECTLY TO MACHINES.

0201470	MACHINES (SIMPLE)
0201470001	CHOOSE FIVE MACHINES FROM GROUP OF FIFTEEN OBJECTS.
0201470002	WITH SIMPLE MACHINE, GIVE DEMONSTRATION. SHOW HOW TASK CAN BE MAD
0201470003	LEARN SIX SIMPLE MACHINES. IDENTIFY BY LISTING FOUR IN SCHOOL ENV
0201470004	USING SIMPLE MATERIALS (SPOOLS, ROPE), MAKE A PULLEY SYSTEM WHI
0202470	MACHINES (SIMPLE)
0202470001	IDENTIFY PULLEY SYSTEMS IN EVERYDAY OBJECTS.
0202470002	PREDICT WHETHER AN OBJECT WITH A PULLEY WILL MOVE MORE OR LESS EAS COMPLETE AN EXPERIMENT TO SEE IF YOU WERE RIGHT.
0202470003	PREDICT WHICH DIRECTION THE PULLEY CORD SHOULD BE PULLED IN ORDER T AN EXPERIMENT TO SEE IF YOU WERE RIGHT.
0202470004	PREDICT WHETHER AN OBJECT ON ROLLERS OR WHEELS WILL MOVE MORE OR LES COMPLETE EXPERIMENT TO SEE IF YOU WERE RIGHT.
0202470005	IDENTIFY GEARS ON AN OBJECT.
0202470006	IDENTIFY THE FASTER GEAR ON AN OBJECT WITH TWO GEARS.
0203470	MACHINES (SIMPLE)
0203470001	IDENTIFY DEFINITIONS OF A SIMPLE MACHINE.
0203470002	TELL THE BENEFITS OF SIMPLE MACHINES.

FIFTEEN OBJECTS.

ATION. SHOW HOW TASK CAN BE MADE EASIER WITH MACHINE.

FY BY LISTING FOUR IN SCHOOL ENVIRONMENT.

PE), MAKE A PULLEY SYSTEM WHICH WORK.

Y OBJECTS.

ULLEY WILL MOVE MORE OR LESS EASILY THAN AN OBJECT WITHOUT A PULLEY.
OU WERE RIGHT.

CORD SHOULD BE PULLED IN ORDER TO MAKE THE OBJECT MOVE UP OR DOWN. COMPLETE
IGHT.

RS OR WHEELS WILL MOVE MORE OR LESS EASILY THAN AN OBJECT WHICH IS NOT.
WERE RIGHT.

ECT WITH TWO GEARS.

ACHINE.

ES.

0203470003	RECOGNIZE WHICH TYPE OF SIMPLE MACHINE (INCLINED PLANE, WEDGE, LE
0203470004	RECOGNIZE WHICH TYPE OF SIMPLE MACHINE (PULLEY, SCREW, OR WHEEL)
0203470005	DESCRIBE THE SIMPLE MACHINES YOU HAVE OBSERVED IN YOUR OWN HOME.
0204470	MACHINES (SIMPLE)
0204470001	WHEN GIVEN THREE SIMPLE MACHINES, IDENTIFY AND DESCRIBE THE OPERA
0204470002	DESIGN A SIMPLE TOOL WHICH WILL HELP YOU PERFORM A TASK AT SCHOOL
0205470	MACHINE (SIMPLE)
0205470001	COMBINING SEVERAL OF THE SIX SIMPLE MACHINES (INCLINED PLANE, SC DESIGN AND BUILD A WORKING MODEL.
0206470	MACHINES (SIMPLE)
0206470001	KNOW THAT A SIMPLE MACHINE MULTIPLIES EFFORT BUT DOES NOT INCRE
0206470002	KNOW THAT A SCREW IS A WINDING INCLINED PLANE.
0206470003	DEMONSTRATE IT IS EASIER TURNING A SCREW INTO WOOD THAN PUSHING I ATTEMPTING TO PUSH IT THE REST OF THE WAY.
0206470004	CONSTRUCT A WINDING INCLINED PLANE. CUT INCLINED PLANE 12 INCHES WILL RISE 1/2 INCH PER TURN AND TAKE 11 TURNS.

IMPLE MACHINE (INCLINED PLANE, WEDGE, LEVER) IS BEING USED IN A GIVEN SITUATION.

IMPLE MACHINE (PULLEY, SCREW, OR WHEEL) IS BEING USED IN A GIVEN SITUATION.

NES YOU HAVE OBSERVED IN YOUR OWN HOME.

ACHINES, IDENTIFY AND DESCRIBE THE OPERATION OF ONE MACHINE.

H WILL HELP YOU PERFORM A TASK AT SCHOOL OR AT HOME.

SIX SIMPLE MACHINES (INCLINED PLANE, SCREW, WEDGE, LEVER, PULLEY, WHEEL, AND AXLE)
G MODEL.

E MULTIPLIES EFFORT BUT DOES NOT INCREASE WORK.

NDING INCLINED PLANE.

TURNING A SCREW INTO WOOD THAN PUSHING IT BY PARTIALLY TURNING IT INTO WOOD THEN
REST OF THE WAY.

NED PLANE. CUT INCLINED PLANE 12 INCHES BY 6 INCHES AND WIND IT AROUND A PENCIL. IT
RN AND TAKE 11 TURNS.

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0206470005     DESCRIBE THAT TURNING THE SCREW INTO WOOD IS SIMILAR TO  USING A

0206470006     KNOW THAT WEDGES ARE MOVABLE INCLINED PLANES FOR         OVERCOM

0206470007     DEMONSTRATE AN INCLINED PLANE MAKES A JOB EASIER BY      PULLING
               BOARD, CAUSING THE AMOUNT TO READ LESS THAN BY LIFTING   THE SKA

0206470008     KNOW THAT THE EFFORT NEEDED TO RAISE A WEIGHT A GIVEN    DISTANC
               IS INCREASED.

0206470009     KNOW THAT A LEVER IS A SIMPLE MACHINE THAT CONCENTRATES  THE EFF
               LEVER USUALLY MULTIPLIES FORCE.

0206470010     KNOW THAT THE EFFORT NEEDED TO RAISE A WEIGHT WITH A     LEVER D
               THE EFFORT FROM THE FULCRUM.

0206470011     KNOW THAT MOVING THE FULCRUM IN RELATION TO LOAD AND     EFFORT
               APPLIED TO LIFT A LOAD.

0206470012     KNOW THAT THE LONGER THE EFFORT ARM, THE MORE A FORCE IS MULTIPL

0206470013     DEMONSTRATE LOCATION OF FULCRUM AFFECTING EFFORT FORCE,  USING A
               CLOSE TO EFFORT, CAUSING GREATER EFFORT FORCE AS FULCRUM IS CLOS

0206470014     DEMONSTRATE A LEVER MAKES A JOB EASIER BY USING A RULER  TO HOLD
               DOWN THE OTHER END CAUSING IT TO READ LESS THAN WITH THE BALANCE

0206470015     DESCRIBE THAT THE LEVER IS A FORCE MULTIPLIER SINCE IT   ALLOWS

0206470016     KNOW THAT A FIXED PULLEY CHANGES THE DIRECTION OF A      FORCE.

0206470017     KNOW THAT A FIXED PULLEY CHANGES THE DIRECTION OF THE    EFFORT

0206470018     DEMONSTRATE A FIXED PULLEY CHANGES DIRECTION OF FORCE    REQUIRE
               FIXED PULLY.  COMPARING DIRECTION WITH AND WITHOUT       PULLEY.
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O WOOD IS SIMILAR TO USING AN INCLINED PLANE USING LESS EFFORT FORCE.

ED PLANES FOR OVERCOMING GREAT RESISTANCES.

A JOB EASIER BY PULLING A SKATE WITH A SPRING BALANCE UP A SLANTED
ESS THAN BY LIFTING THE SKATE ALONE.

E A WEIGHT A GIVEN DISTANCE DECREASES AS THE LENGTH OF AN INCLINED PLACE

NE THAT CONCENTRATES THE EFFORT FORCE AND THE LOAD, EACH AT ONE POINT. A

E A WEIGHT WITH A LEVER DEPENDS ON THE RELATIVE DISTANCES OF THE LOAD AND

ATION TO LOAD AND EFFORT INCREASES OR DECREASES THE EFFORT THAT MUST BE

, THE MORE A FORCE IS MULTIPLIED.

ECTING EFFORT FORCE USING A SPRING BALANCE TO MEASURE FORCE WHEN FULCRUM IS
FORT FORCE AS FULCRUM IS CLOSER TO LOAD.

IER BY USING A RULER TO HOLD A BOOK WHILE A SPRING BALANCE IS USED TO PULL
AD LESS THAN WITH THE BALANCE ALONE.

MULTIPLIER SINCE IT ALLOWS FOR LESS FORCE NEEDED TO LIFT AN OBJECT.

E DIRECTION OF A FORCE. IT DOES NOT MULTIPLY THE FORCE.

E DIRECTION OF THE EFFORT FORCE. A MOVABLE PULLEY DOUBLES THE FORCE.

DIRECTION OF FORCE REQUIRED TO LIFT A LOAD, BY LIFTING A BRICK USING A
ITH AND WITHOUT PULLEY.

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0206470019     DEMONSTRATE A MOVABLE PULLEY REDUCES EFFORT IN         COMPARS
               A FIXED AND MOVABLE PULLEY CAUSING LESS EFFORT WITH    MOVABLE

0206470020     KNOW THAT PULLEY SYSTEMS BOTH CHANGE THE DIRECTION OF A  FORCE A

0206470021     TEST UNDERSTANDING OF PULLEYS BY CONSIDERING SEVERAL   SITUATI

0206470022     KNOW THAT A BLOCK AND TACKLE PULLEY SYSTEM MULTIPLIES  THE FOR

0206470023     DEMONSTRATE A BLOCK AND TACKLE CAN INCREASE THE TIMES A  FORCE I
               TACKLE USING FIXED AND MOVABLE PULLEYS PROVING FORCE IS  INCREAS

0206470024     DESCRIBE THE AMOUNT OF EFFORT FORCE IS MULTIPLIED IS   INCREAS
               SUPPORT THE MOVEABLE PULLEY BLOCK.

0206470025     DEMONSTRATE USING TWO DOUBLE BLOCKS IN A BLOCK AND     TACKLE
               BOTH SYSTEMS.  COMPARE EFFORT.

0206470026     KNOW THAT ONE USE OF THE WHEEL AND AXLE IS TO INCREASE  SPEED.

0206470027     KNOW THAT A WHEEL AND AXLE MULTIPLIES FORCE WHEN IT IS  APPLIED
               APPLIED TO THE AXLE.

0206470028     KNOW THAT GEARS MULTIPLY FORCE OR INCREASE SPEED AS THE  WHEEL A
               FORCE.

0206470029     DEMONSTRATE FRICTION RESISTS MOTION BY PULLING WOOD    ACROSS
               OILED SURFACE, COMPARING WITH SPRING BALANCE WHICH     REQUIRE

0206470030     DEMONSTRATE WORK LIFTING A SKATE TO THE TOP OF A PILE OF BOOKS I
               TO EQUAL HEIGHT BY READING A SPRING BALANCE AND APPLYING THE WOR

0206470031     MATCH EXAMPLES OF INCLINED PLANE, FIXED PULLEY, WHEEL  AND AXL
               THEY MAKE WORK EASIER.

0206470032     WHEN GIVEN DRAWINGS OF LEVERS, RECOGNIZE THE FULCRUM,  THE LOA
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UCES EFFORT IN COMPARSION WITH A FIXED PULLEY BY LIFTING A BRICK USING
NG LESS EFFORT WITH MOVABLE PULLEY.

ANGE THE DIRECTION OF A FORCE AND MULTIPLY IT.

CONSIDERING SEVERAL SITUATIONS IN WHICH THEY MAY BE USED.

LEY SYSTEM MULTIPLIES THE FORCE BY THE NUMBER OF ROPES THAT SUPPORT THE LOAD.

AN INCREASE THE TIMES A FORCE IS MULTIPLIED - WEIGH LOAD, LIFT WITH BLOCK AND
ULLEYS PROVING FORCE IS INCREASED.

RCE IS MULTIPLIED IS INCREASED WITH AN INCREASE IN THE NUMBER OF STRINGS THA
K.

CKS IN A BLOCK AND TACKLE MULTIPLY FORCE MORE THAN TWO SINGLE BLOCKS. USE

ND AXLE IS TO INCREASE SPEED.

PLIES FORCE WHEN IT IS APPLIED TO THE WHEEL, AND INCREASES SPEED WHEN IT IS

R INCREASE SPEED AS THE WHEEL AND AXLE DOES, AND CHANGE THE DIRECTION OF THE

ION BY PULLING WOOD ACROSS THREE DIFFERENT SURFACES-TABLE TOP, SAND PAPER,
RING BALANCE WHICH REQUIRES GREATEST EFFORT.

TO THE TOP OF A PILE OF BOOKS IS EQUAL TO WORK PULLING IT UP AN INCLINED PLANE
ING BALANCE AND APPLYING THE WORK RULE.

, FIXED PULLEY, WHEEL AND AXLE, LEVEL, WEDGE, AND SCREW WITH WAYS IN WHICH

ECOGNIZE THE FULCRUM, THE LOAD, AND THE BEST POINT TO APPLY EFFORT.

0206470033	DEMONSTRATE DIFFERENCE BETWEEN VALUE OF A FIXED PULLEY AND VALUE
0206470034	DEMONSTRATE RELATIONSHIPS BETWEEN EFFORT APPLIED AND AMOUNT OF SIMPLE MACHINES.

OF VALUE OF A FIXED PULLEY AND VALUE OF A BLOCK AND TACKLE AS SIMPLE MACHINES.

WO EEN EFFORT APPLIED AND AMOUNT OF WORK DONE IN EXPERIMENTAL SITUATIONS USING

0200475	MAMMALS
0200475001	KNOW THE CHARACTERISTICS AND LIFE ACTIVITIES OF MAMMALS.
0200475002	KNOW THAT THE MOTHER MAMMAL HAS BABIES, WHICH SHE WILL TA THEIR OWN TO BECOME ADULTS.
0200475003	DESCRIBE HOW THE MOTHER MAMMAL HAS BABIES, WHICH SHE WI ON THEIR OWN TO BECOME ADULTS.
0200475004	DESCRIBE THE CHARACTERISTICS AND LIFE ACTIVITIES OF MA THEM MOVE, EAT, CONSTRUCT NESTS, AND RAISE YOUNG.
0205475	MAMMALS
0205475001	KNOW THAT THE MAMMALS HAVE BEEN MORE SUCCESSFUL IN THEIR AD
0205475002	KNOW THAT MAMMALS ARE ADAPTED FOR THE PROTECTION AND CA
0205475003	UNDERSTAND THE IMPORTANT RELATIONSHIP BETWEEN CHANGES IN ST CHANGES IN CHROMOSOMES.

AND LIFE ACTIVITIES OF MAMMALS.

AL HAS BABIES, WHICH SHE WILL TAKE CARE OF FOR A WHILE UNTIL THE BABIES CAN GROW ON
S.

AMMAL HAS BABIES, WHICH SHE WILL TAKE CARE OF FOR A WHILE UNTIL THE BABIES CAN GROW
ULTS.

TICS AND LIFE ACTIVITIES OF MAMMALS, SUCH AS WHITE RATS OR GUINEA PIGS, BY OBSERVIN
T NESTS, AND RAISE YOUNG.

E BEEN MORE SUCCESSFUL IN THEIR ADAPTATIONS THAN HAVE OTHER FORMS OF LIVING THINGS.

PTED FOR THE PROTECTION AND CARE OF THEIR YOUNG.

RELATIONSHIP BETWEEN CHANGES IN STRUCTURE AND FUNCTION OF THE BODY (ADAPTATION) AND

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0200480        MAGNETS

0200480001     DEMONSTRATE THE PUSHING AND PULLING FORCE OF A MAGNET,   BY USING
               OBJECTS.

0200480002     KNOW THE PUSHING AND PULLING FORCE OF A MAGNET, BY       USING A M

0200480003     KNOW THAT ONE BAR MAGNET EFFECTS ANOTHER BY CAUSING LIKE ENDS TO R

0200480004     DEMONSTRATE THE EFFECT OF ONE BAR MAGNET UPON ANOTHER,   BY CAUSIN
               ATTRACT.

0200480005     KNOW THAT BAR MAGNETS ARE STRONGER ON THE ENDS THAN IN   THE MIDDL

0200480006     DEMONSTRATE THAT BAR MAGNETS ARE STRONGER ON THE ENDS    THAN IN TH
               PLACES ON THE MAGNET.

0200480007     KNOW THAT SOME OBJECTS ARE AFFECTED BY THE MAGNET AND    OTHERS AR

0200480008     DISTINGUISH BETWEEN OBJECTS THAT CAN AND CANNOT BE MOVED BY THE MAG
               NOT AFFECTED BY THE MAGNET.


0201480        MAGNETS

0201480001     KNOW THAT A MAGNETIC FORCE CAN BE USED TO OVERCOME THE   FORCE OF

0201480002     DEMONSTRATE THAT A MAGNETIC FORCE CAN BE USED TO         OVERCOME T
               SOME OBJECTS.

0201480003     KNOW THAT A MAGNET CAN BE USED TO PICK UP SOME METAL     OBJECTS FR
               OBJECTS.

0201480004     DEMONSTRATE THAT A MAGNET CAN BE USED TO PICK UP SOME    METAL OBJ
               NON-METAL OBJECTS.

0201480005     KNOW THAT OBJECTS CAN BE ORDERED INTO TWO GROUPS THOSE   THAT CAN
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LING FORCE OF A MAGNET,   BY USING A MAGNET TO LIFT AND MOVE VARIOUS METAL

RCE OF A MAGNET, BY       USING A MAGNET TO LIFT AND MOVE VARIOUS METAL OBJECTS.

S ANOTHER BY CAUSING LIKE ENDS TO REPEL AND UNLIKE ENDS TO ATTRACT.

AR MAGNET UPON ANOTHER,   BY CAUSING LIKE ENDS TO REPEL AND UNLIKE ENDS TO

GER ON THE ENDS THAN IN   THE MIDDLE.

E STRONGER ON THE ENDS    THAN IN THE MIDDLE, BY LIFTING PAPER CLIPS AT DIFFERENT

CTED BY THE MAGNET AND    OTHERS ARE NOT.

T CAN AND CANNOT BE MOVED BY THE MAGNET, BY USING VARIOUS KINDS OF OBJECTS, SOME



BE USED TO OVERCOME THE   FORCE OF GRAVITY.

CE CAN BE USED TO         OVERCOME THE FORCE OF GRAVITY, BY USING A MAGNET TO LIFT

TO PICK UP SOME METAL     OBJECTS FROM AN ARRAY OF DIFFERENT METAL AND NON-METAL

E USED TO PICK UP SOME    METAL OBJECTS FROM AN ARRAY OF DIFFERENT METAL AND

D INTO TWO GROUPS THOSE   THAT CAN BE PICKED UP BY A MAGNET AND THOSE THAT CANNOT.
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0201480006      ORDER OBJECTS INTO TWO GROUPS, THOSE THAT CAN BE PICKED  UP BY



0205480         MAGNETS

0205480001      GIVEN GROUP OF OBJECTS AND A MAGNET, PREDICT WHICH OF    THE O
                TEST YOUR PREDICTIONS IN EXPERIMENTAL PROCEDURES.

0205480002      GIVEN A MAGNET AND GROUP OF MATERIALS (E.G., PAPER,      CARDB
                MATERIALS ARE MAGNETICALLY TRANSPARENT.

0205480003      GIVEN TWO MARKED BAR MAGNETS, RECOGNIZE THE POLES WHICH  ATTRA

0205480004      GIVEN A MAGNET, DEMONSTRATE THE PATTERN OF ITS LINES OF  FORCE


0206480         MAGNETS

0206480001      DEMONSTRATE DIFFERENCE BETWEEN MAGNETIC MATERIALS WHICH  ARE P

0206480002      GIVEN DIAGRAM OR DRAWING OF A MAGNETIC FIELD, LOCATE THE STRON
                FIELD.

0206480003      TELL THE DIFFERENCE BETWEEN THE NORTH GEOGRAPHIC POLE    AND T
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ROUPS, THOSE THAT CAN BE PICKED UP BY A MAGNET AND THOSE THAT CANNOT.

ND A MAGNET, PREDICT WHICH OF THE OBJECTS ARE MAGNETIC AND WHICH ARE NONMAGNETIC.
EXPERIMENTAL PROCEDURES.

OF MATERIALS (E.G., PAPER, CARDBOARD, PLASTIC GLASS, TIN), DEMONSTRATE WHICH
LY TRANSPARENT.

NETS, RECOGNIZE THE POLES WHICH ATTRACT EACH OTHER AND THE POLES WHICH REPEL EACH OTHER.

ATE THE PATTERN OF ITS LINES OF FORCE.

ETWEEN MAGNETIC MATERIALS WHICH ARE PERMANENT AND THOSE WHICH ARE TEMPORARY.

OF A MAGNETIC FIELD, LOCATE THE STRONGEST AND WEAKEST LINES OF FORCE IN THE MAGNETIC

EEN THE NORTH GEOGRAPHIC POLE AND THE NORTH MAGNETIC POLE.

0205485 MEALWORMS

0205485001 RECOGNIZE BODY PARTS OF A MEALWORM (ANTENNA, HEAD, MOUTH
FUNCTIONS.

ORM (ANTENNA, HEAD, MOUTH, LEG, THORAX, ABDOMEN) AND DESCRIBE THEIR

0206490	METALS
0206490001	KNOW THAT THE CONCEPTS OF THE BEHAVIOR OF MATTER HAD TO BE U
0206490002	KNOW THAT METALS CAN BE SEPARATED FROM THEIR COMPOUNDS. THEY PROPERTIES.
0206490003	KNOW THAT HEAT IS A SOURCE OF ENERGY FOR EXTRACTING COPP
0206490004	KNOW THAT HEAT IS A SOURCE OF ENERGY FOR EXTRACTING IRON FROM
0206490005	KNOW THAT METALS WITH NEW PROPERTIES CAN BE OBTAINED IF TWO MELTED TOGETHER AND COOLED.
0206490006	KNOW THAT ALLOYS PROVIDE US WITH SUBSTANCES WITH ADVA
0206490007	KNOW THAT ALUMINUM HAS MANY USES.

F THE BEHAVIOR OF MATTER HAD TO BE UNDERSTOOD BEFORE METALS COULD BE USED WIDELY.

SEPARATED FROM THEIR COMPOUNDS. THEY CAN BE COMBINED TO OBTAIN NEW COMPOUNDS HAVING NEW

CE OF ENERGY FOR EXTRACTING COPPER FROM ITS ORES.

CE OF ENERGY FOR EXTRACTING IRON FROM ITS ORE.

W PROPERTIES CAN BE OBTAINED IF TWO OR MORE ELEMENTS, AT LEAST ONE OF THEM A METAL, ARE
ED.

US WITH SUBSTANCES WITH ADVANTAGEOUS PROPERTIES.

ANY USES.

0204495	MICRO-ORGANISMS
0204495001	DEMONSTRATE FOOD IS NECESSARY FOR ORGANISMS TO GROW AND MULT HARD-BOILED EGG YOLK CAUSING JARS WITH FOOD TO BE CLOUDY WITH
0205495	MICROORGANISMS
0205495001	PLAN FOR COLLECTING, CULTURING, AND STUDYING PROTOZOANS.
0205495002	KNOW THAT PROTOZOANS MOVE AND GATHER FOOD IN DIFFERENT WAYS
0205495003	DESCRIBE MOVEMENT AND FEEDING OF LIFE IN DROP OF POND WATE
0205495004	DISTINGUISH BETWEEN LIFE FOUND IN DROP OF WATER AND IN WATE

FOR ORGANISMS TO GROW AND MULTIPLY BY CULTURING POND WATER WITH/WITHOUT ADDING
JARS WITH FOOD TO BE CLOUDY WITH MICRO-ORGANISMS.

G, AND STUDYING PROTOZOANS.

GATHER FOOD IN DIFFERENT WAYS.

OF LIFE IN DROP OF POND WATER. USE MICROSCOPE.

D IN DROP OF WATER AND IN WATER FROM SURFACE OF POND MUD. USE MICROSCOPE.

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0205500         MICROSCOPE TECHNIQUE

0205500001      USE A COMPOUND MICROSCOPE BY SETTING UP AND FOCUSING IT  FOR

0205500002      GIVEN A MICROSCOPE, A SLIDE, AND A SIMPLE SKETCH, LABEL  SKE
                RECORD THE MAGNIFICATION USED.

0205500003      GIVEN LIST OF DIRECTIONS, PREPARE A SLIDE FOR VIEWING    FRO
                SLIP, A SPECIMEN (SUCH AS POND WATER).

0205500004      DEMONSTRATE HOW TO PLACE A COVER SLIP ON DROP OF WATER   (PO

0205500005      DEMONSTRATE USE OF MICROSCOPE.  PLACE IN FOCUS SLIDE     PRE
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COPE BY SETTING UP AND FOCUSING IT FOR VIEWING AT A GIVEN POWER.

SLIDE, AND A SIMPLE SKETCH, LABEL SKETCH ACCORDING TO WHAT YOU OBSERVE ON THE SPECIMEN.
ION USED.

ONS, PREPARE A SLIDE FOR VIEWING FROM THE FOLLOWING MATERIALS A GLASS SLIDE, A COVER
H AS POND WATER).

ACE A COVER SLIP ON DROP OF WATER (POND) ON MICROSCOPE SLIDE. DO NOT TRAP AIR BUBBLES.

CROSCOPE. PLACE IN FOCUS SLIDE PREPARED EARLIER.

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0200505         MOLLUSKS

0200505001      KNOW THAT A SNAIL BEGAN ITS LIFE AS AN EGG, WHICH       HATCHED INT  E AS

0200505002      DESCRIBE THAT A SNAIL BEGAN ITS LIFE AS AN EGG, WHICH   HATCHED INT  LIF

0200505003      KNOW THE CHARACTERISTICS AND LIFE ACTIVITIES OF AQUATIC AND GARDEN   E A

0200505004      DESCRIBE THE CHARACTERISTICS AND LIFE ACTIVITIES OF     AQUATIC AND  D LI
                EAT.


0204505         MOLLUSKS

0204505001      DESCRIBE THE HATCHING OF AN EGG, BY OBSERVING AND       RECORDING C   BY
                SNAILS HATCH.
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AS AN EGG, WHICH HATCHED INTO A TINY SNAIL AND THEN GREW INTO AN ADULT.

LIFE AS AN EGG, WHICH HATCHED INTO A TINY SNAIL AND THEN GREW INTO AN ADULT.

E ACTIVITIES OF AQUATIC AND GARDEN SNAILS.

LIFE ACTIVITIES OF AQUATIC AND GARDEN SNAILS, BY OBSERVING THEM MOVE AND

BY OBSERVING AND RECORDING CHANGES OF SNAIL EGGS EACH DAY UNTIL TINY

0204510	PLANTS (ADAPTATION)	
0204510001	KNOW THAT DIFFERENT PLANTS ARE ADAPTED TO DIFFERENT	ENVIRON
0204510002	DEMONSTRATE HOW NONGREEN PLANTS ARE ADAPTED FOR	OBTAINI
0206510	PLANTS (ADAPTATION)	
0206510001	DESCRIBE THAT PLANTS FROM POTATO HAD SAME HEREDITY BUT	DID NOT

TS ARE ADAPTED TO DIFFERENT ENVIRONMENTS.

PLANTS ARE ADAPTED FOR OBTAINING FOOD AND REPRODUCING.

OM POTATO HAD SAME HEREDITY BUT DID NOT DEVELOP ALIKE DUE TO ENVIRONMENT.

0206515	PLANTS (BACTERIA)
0206515001	KNOW THAT BACTERIA CAN BE CLASSIFIED, OR GROUPED BY THEIR STRUCT
0206515002	INFER, FROM INVESTIGATION, THAT HEAT AND ABSENCE OF LIGHT IN THE MOST BACTERIA.
0206515003	APPLY UNDERSTANDING OF THE NEEDS OF BACTERIA TO METHODS OF FOOD PRES
0206515004	KNOW THAT BACTERIA CAN BE CLASSIFIED AS HELPFUL OR HARMFUL TO M
0206515005	KNOW THAT THE GROWTH OF LARGE NUMBERS OF BACTERIA OR TOXICITY OF HEALTH.
0206515006	KNOW THAT BACTERIA OBTAIN FOOD FROM CHANGING COMPLEX SUBSTANCES I
0206515007	CHILD WILL DEMONSTRATE GROWTH OF BACTERIA USING PETRI DISHES, EXPO REFRIGERATOR AND OTHER IN A WARM DARK PLACE, THEN COMPARE GROW
0206515008	DEMONSTRATE CULTURE OF MICROORGANISMS, BY ADDING HARD- BOILED EGG Y FOR SEVERAL DAYS UNTIL CULTURE IS SWARMING WITH BACTERIA.
0206515009	GIVEN DRAWINGS OR DESCRIPTIONS OF THREE TYPES OF BACTERIA (CO CORRECTLY.

ED, OR GROUPED BY THEIR STRUCTURE.

AT AND ABSENCE OF LIGHT IN THE ENVIRONMENT ARE ESSENTIAL FOR GROWTH OF

F BACTERIA TO METHODS OF FOOD PRESERVATION.

ED AS HELPFUL OR HARMFUL TO MAN.

ERS OF BACTERIA OR TOXICITY OF SUBSTANCES FORMED MAY BE DANGEROUS TO

M CHANGING COMPLEX SUBSTANCES INTO SIMPLER ONES.

ACTERIA USING PETRI DISHES, EXPOSE THE PREPARED DISHES, PLACING ONE IN
ARK PLACE, THEN COMPARE GROWTH.

SMS, BY ADDING HARD- BOILED EGG YOLK TO JAR OF POND WATER, KEEPING IT WARM
SWARMING WITH BACTERIA.

THREE TYPES OF BACTERIA (COCCUS, BACILLUS, AND SPIRILLUM), LABEL

0206520 PLANTS (BACTERIA AND MOLD)

0206520001 KNOW THAT BACTERIA AND MOLD ARE CLASSIFIED AS PLANTS BY THEI

0206520002 KNOW THAT BACTERIA AND MOLDS CHEMICALLY BREAK DOWN COMP
THROUGH A MEMBRANE.

OLD ARE CLASSIFIED AS PLANTS BY THEIR STRUCTURE.

OLDS CHEMICALLY BREAK DOWN COMPLEX FOODS INTO SIMPLE SUBSTANCES THAT CAN PASS

0202525	PLANTS (CAPILLARY ACTION)
0202525001	KNOW THAT WATER TRAVELS THROUGH THE STEM AND INTO THE
0202525002	DEMONSTRATE THAT WATER TRAVELS THROUGH THE STEM AND INTO CONTAINING DYE AND LEAVING IT THERE UNTIL THE COLOR
0203525	PLANTS (CAPILLARY ACTION)
0203525001	KNOW THAT WATER CAN MOVE UP A SUBSTANCE.
0203525002	KNOW THAT THE FORCE THAT CAUSES THE LIQUID TO RISE UP
0203525003	DEMONSTRATE HOW WATER CAN MOVE UP A SUBSTANCE, BY AND ANOTHER IN WATER CONTAINING RED INK, CAUSING BOTH
0203525004	DESCRIBE THAT THE FORCE THAT CAUSES THE LIQUID TO RISE
0203525005	KNOW THAT A SOLUTION WILL MOVE UP A PLANT STEM.
0203525006	DEMONSTRATE THAT A SOLUTION WILL MOVE UP A PLANT STEM BY AND BY OBSERVING THAT IN TIME THE COLOR APPEARS IN THE

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THE STEM AND INTO THE    LEAVES.

HROUGH THE STEM AND INTO THE LEAVES, BY PLACING CUT CELERY STALK IN WATER
ERE UNTIL THE COLOR      APPEARS IN THE LEAF VEINS.



BSTANCE.

THE LIQUID TO RISE UP    THE BLOTTER IS SIMILAR TO THAT WHICH WORKS IN PLANTS.

P A SUBSTANCE, BY        PLACING ONE STRIP OF BLOTTER PAPER IN A GLASS OF WATER
RED INK, CAUSING BOTH    LIQUIDS TO RISE UP THE BLOTTERS.

SES THE LIQUID TO RISE   UP THE BLOTTER IS SIMILAR TO THAT WHICH WORKS IN PLANTS.

P A PLANT STEM.

 MOVE UP A PLANT STEM BY PLACING A CUT CELERY STALK INTO WATER CONTAINING DYE,
E COLOR APPEARS IN THE   LEAVES.
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0204530 PLANTS (FERTILIZATION)

0204530001 DESCRIBE ORALLY OR IN WRITING HOW FERTILIZATION TAKES P

TILIZATION TAKES PLACE IN THE PLANT.

0204535	PLANTS (FOOD CHAINS)
0204535001	KNOW THAT FOOD CHAINS LEAD ULTIMATELY TO GREEN PLANTS.

0204540	PLANTS (GASES)
0204540001	KNOW THAT GREEN PLANTS GIVE OFF OXYGEN GAS.
0204540002	KNOW THAT THE SUBSTANCES IN THE AIR ARE AFFECTED BY THE A IN LIGHT, AND TAKE IN CARBON DIOXIDE).

OFF OXYGEN GAS.

THE AIR ARE AFFECTED BY THE ACTION OF GREEN PLANTS. (GREEN PLANTS GIVE OFF OXYGEN
ON DIOXIDE).

0201545	PLANTS (GROWTH)
0201545001	KEEP AN ACCURATE RECORD OF THE CHANGING PROPERTIES OF A GR
0201545002	DESCRIBE THE CHANGE OF PROPERTIES IN A GROWING PLANT.
0203545	PLANTS (GROWTH)
0203545001	KNOW THAT ALL GREEN PLANTS MAKE FOOD.
0203545002	DEFINE CHLOROPHYLL.
0203545003	MAKE DISPLAY OF PLANTS THAT DO NOT MAKE FOOD.
0204545	PLANTS (GROWTH)
0204545001	KNOW HOW GROWING PLANTS CAN BREAK ROCKS.
0204545002	KNOW HOW MATTER FROM THE ENVIRONMENT IS USED FOR GROWTH BY
0204545003	KNOW THAT PLANTS HAVE LIFE CYCLES ADAPTED TO GROWTH IN THE
0204545004	CONSTRUCT A HYPOTHESIS ABOUT WHAT WILL HAPPEN TO THE HEI CONTINUES GROWING.
0204545005	DEMONSTRATE THAT THE HEIGHT OF THE MARK WILL NOT CHANGE AS
0205545	PLANTS (GROWTH)

CHANGING PROPERTIES OF A GROWING PLANT.

ES IN A GROWING PLANT.

FOOD.

NOT MAKE FOOD.

AK ROCKS.

NMENT IS USED FOR GROWTH BY CELLS OF GREEN PLANTS AND ALL OTHER LIVING THINGS.

ES ADAPTED TO GROWTH IN THEIR ENVIRONMENTS.

AT WILL HAPPEN TO THE HEIGHT OF A MARK ON A GROWING PLANT STEM, AS THE PLANT

THE MARK WILL NOT CHANGE AS THE PLANT CONTINUES GROWING.

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0205545001     KNOW THAT DURING PHOTOSYNTHESIS (THE MANUFACTURE OF        CARBOHYDR

0205545002     CONSTRUCT AN HYPOTHESIS CONCERNING THE REACTIONS IN A      PLANT THA

0205545003     OPERATIONALLY DEFINE PHOTOSYNTHESIS AND CHLOROPHYLL.

0205545004     KNOW THAT DURING PHOTOSYNTHESIS, GREEN PLANTS              MANUFACTU
               OF LIGHT.

0205545005     PERFORM AN INVESTIGATION SHOWING THE PRODUCTION OF         OXYGEN DU
               FOR THIS PROCESS.

0205545006     DISCOVER THAT MANY OF OUR FOODS COME FROM PLANTS CELLS     SPECIALIZE

0205545007     KNOW THAT GREEN PLANTS MAKE CARBOHYDRATES FROM CARBON      DIOXIDE A
               PLANTS FOR THEIR FOOD.

0205545008     KNOW THAT PLANTS MAKE AND STORE FATS.

0205545009     KNOW THAT PLANTS MAKE AND STORE PROTEINS.

0205545010     KNOW THAT GREEN PLANTS ARE A BASIC SOURCE FOR MANY         SUBSTANCES

0205545011     LIST THE FOOD SUBSTANCE AND GASES PRODUCED DURING          PHOTOSYNTH

0205545012     KNOW THAT PLANTS ARE A SOURCE OF FOOD SUBSTANCES THAT      KEEP US WE



0206545        PLANTS (GROWTH)

0206545001     DEMONSTRATE EFFECT OF ENVIRONMENT ON LIVING THINGS OF      SAME HERED
               FOOD, WATER, LIGHT, AND ARRANGE IN FOUR DIFFERENT          COMBINATIO
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YNTHESIS (THE MANUFACTURE OF CARBOHYDRATES), GREEN PLANTS PRODUCE OXYGEN.

CONCERNING THE REACTIONS IN A PLANT THAT MIGHT PRODUCE CARBOHYDRATES.

OTOSYNTHESIS AND CHLOROPHYLL.

YNTHESIS, GREEN PLANTS MANUFACTURE SIMPLE SUGARS AND STARCHES, USING THE ENERGY

N SHOWING THE PRODUCTION OF OXYGEN DURING PHOTOSYNTHESIS AND THE NECESSITY OF LIGHT

UR FOODS COME FROM PLANTS CELLS SPECIALIZED FOR STORAGE OF CARBOHYDRATES.

AKE CARBOHYDRATES FROM CARBON DIOXIDE AND WATER. ANIMALS ARE DEPENDENT ON GREEN

D STORE FATS.

D STORE PROTEINS.

RE A BASIC SOURCE FOR MANY SUBSTANCES NEEDED BY ALL ANIMAL LIFE.

AND GASES PRODUCED DURING PHOTOSYNTHESIS.

OURCE OF FOOD SUBSTANCES THAT KEEP US WELL.

IRONMENT ON LIVING THINGS OF SAME HEREDITY. GROW PLANTS FROM POTATO EYES, CONTROL
RRANGE IN FOUR DIFFERENT COMBINATIONS.

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0204550        PLANTS (HYBRIDS)

0204550001     DEBATE FOR OR AGAINST SPENDING TIME AND MONEY TO IMPROVE THE QUANTI
               HYBRIDIZATION.


0205550        PLANTS (HYBRIDS)

0205550001     GIVEN DUPLICATES OF SEEDS, PLANTS, OR FRUITS, TRY TO     IMPROVE TH


0206550        PLANTS (HYBRIDS)

0206550001     DEMONSTRATE CROSS-POLLINATION OF PETUNIAS.  REMOVE      STAMENS FR
               TRANSFER POLLEN TO IT FROM RED FLOWER.  PRODUCE PINK-   WHITE FLOW
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IME AND MONEY TO IMPROVE THE QUANTITY AND THE QUALITY OF CROPS BY SELECTION OR

S, OR FRUITS, TRY TO IMPROVE THE QUALITY BY SELECTION, GRAFTING, OR BUDDING.

PETUNIAS. REMOVE STAMENS FROM COVERED WHITE BUD. LET FLOWER MATURE.
LOWER. PRODUCE PINK- WHITE FLOWER FROM IT.

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0201555         PLANTS (MOLDS)

0201555001      KNOW THAT MOLD PLANTS MAKE MORE MOLD PLANTS.

0201555002      DEMONSTRATE THAT MOLD PLANTS MAKE MORE MOLD PLANTS BY    PLAC
                DARK, WARM PLACE.


0203555         PLANTS (MOLDS)

0203555001      NAME THE THINGS GROWING AS MOLDS, WHICH ARE FUNGI PLANTS ON M


0204555         PLANTS (MOLDS)

0204555001      WHEN GIVEN THE APPROPRIATE MATERIAL UNDER CONTROLLED     COND
                GROW SUCCESSFULLY UNDER CONTROLLED CONDITIONS.

0204555002      DEMONSTRATE THAT MOLD WILL GROW ON FOOD, PLACING         MOIS
                PLACE FOR A FEW DAYS.

0204555003      DESCRIBE THE GROWTH OF THE MOLD ON BREAD AS SIMILAR TO   WHIC
                CELLS TO DISAPPEAR IN TIME.


0206555         PLANTS (MOLDS)

0206555001      DEMONSTRATE GROWTH OF MOLD.  USE TWO PIECES OF DRY       BREA
                PLACE.  MOLD WILL GROW ON MOIST PIECE.

0206555002      THE CHILD WILL DESCRIBE THE MOLD WHICH GROWS BY          OBSE
                OF THREADS, BLACK BALL AT ONE END, AND ROOT-LIKE PARTS.
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RE MOLD PLANTS.

MAKE MORE MOLD PLANTS BY PLACING A PIECE OF MOLDY FOOD NEAR NON-MOLDY FOODS IN A

DS, WHICH ARE FUNGI PLANTS ON MOLDED BREAD.

TERIAL UNDER CONTROLLED CONDUCTION, CONDUCT AN EXPERIMENT TO SHOW MOLDS WILL
ROLLED CONDITIONS.

ROW ON FOOD, PLACING MOISTENED STALE BREAD IN A COVERED JAR AND IN A WARM

LD ON BREAD AS SIMILAR TO WHICH FUNGI WOULD GROW ON A DEAD TREE, CAUSING THE TREE

USE TWO PIECES OF DRY BREAD, MOISTEN ONE, PLACE EACH IN A SEALED JAR IN DARK
IST PIECE.

MOLD WHICH GROWS BY OBSERVING WITH A MICROSCOPE AND NOTING CHARACTERISTICS
E END, AND ROOT-LIKE PARTS.

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0201560          PLANTS (NEEDS)

0201560001       PREPARE AN EXPERIMENT IN WHICH YOU TRY TO GROW SIMIL S    S


0201560002       KNOW THAT WATER IS ESSENTIAL FOR SURVIVAL OF LIVING       P


0201560003       DEMONSTRATE THAT WATER IS ESSENTIAL FOR SURVIVAL OF       L
                 SOME WITH SUFFICIENT WATER, AND SOME WITH INSUFFICIENT    W

0201560004       KNOW THAT GREEN PLANTS NEED SUNLIGHT.


0201560005       DEMONSTRATE THAT GREEN PLANTS NEED SUNLIGHT, BY           S
                 IN THE DARK TO BE PALE AND WEAK.



0202560          PLANTS (NEEDS)

0202560001       KNOW THAT SEEDS NEED HEAT TO GROW.


0202560002       DEMONSTRATE THAT SEEDS NEED HEAT TO GROW, BY TRYING TO    S
                 PLACE, SHOWING THAT SEEDS GROW SUBJECT TO LIMITS OF       T

0202560003       KNOW THAT A GREEN PLANT NEEDS WATER.


0202560004       DEMONSTRATE THAT A GREEN PLANT NEEDS WATER, BY GROWING    P
                 WATERING OTHERS.

0202560005       KNOW THAT A GREEN PLANT NEEDS LIGHT.


0202560006       DEMONSTRATE THAT A GREEN PLANT NEEDS LIGHT BY GROWING     S



0203560          PLANTS (NEEDS)

0203560001       KNOW THE CONDITIONS UNDER WHICH A PLANT THAT IS NOT       G
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CH YOU TRY TO GROW SIMILS SEEDS UNDER TWO OR MORE DIFFERENT SOIL CONDITIONS.

FOR SURVIVAL OF LIVING PLANTS.

SENTIAL FOR SURVIVAL OF LIVING PLANTS, BY PLANTING BEAN SEEDS IN SOIL, WATERING
AND SOME WITH INSUFFICIENT WATER.

SUNLIGHT.

S NEED SUNLIGHT, BY SPROUTING POTATO EYES IN LIGHT AND DARK, CAUSING THOSE
EAK.

GROW.

HEAT TO GROW, BY TRYING TO SPROUT SOME SEEDS IN A WARM PLACE AND OTHERS IN A COLD
OW SUBJECT TO LIMITS OF THEIR ENVIRONMENT.

S WATER.

NT NEEDS WATER, BY GROWING PLANTS IN THE CLASSROOM AND BY WATERING SOME AND NOT

S LIGHT.

NT NEEDS LIGHT BY GROWING SOME PLANTS IN LIGHT AND OTHERS IN DARK.

ICH A PLANT THAT IS NOT GREEN WILL GROW.

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0203560002    DEMONSTRATE CONDITIONS UNDER WHICH PLANT THAT IS NOT   GREEN
              BREAD AND TOAST WETTED WITH DIFFERENT AMOUNTS OF WATER  CAUSI

0203560003    KNOW THAT PLANTS FLOODED WITH WATER NOT ONLY HAVE TOO  MUCH
              SOIL, AND IN A SENSE ARE DROWNING IN WATER.

0203560004    DESCRIBE THAT PLANTS FLOODED WITH WATER NOT ONLY HAVE  TOO MU
              THE SOIL, AND IN A SENSE ARE DROWNING IN WATER.

0203560005    KNOW THAT GROWING PLANTS MAY DIE FROM TOO MUCH WATER AS  WELL

0203560006    DEMONSTRATE THAT PLANTS MAY DIE FROM TOO MUCH WATER, OR  FROM
              RADISH PLANTS, NOT WATERING ONE, WETTING ONE AND         DROWN

0203560007    KNOW THE EFFECT OF SUNLIGHT AND LACK OF SUNLIGHT ON      GREEN

0203560008    DEMONSTRATE THE EFFECT OF SUNLIGHT AND LACK OF SUNLIGHT  ON GR
              PAPER FOR TWO DAYS, AND THEN OBSERVING THE PALE COLOR OF THE C



0204560       PLANTS (NEEDS)

0204560001    KNOW WHY GREEN PLANTS NEED THE RIGHT CONDITIONS FOR      GROWT

0204560002    WHEN GIVEN FIVE SEEDS, GROW AND OBSERVE ENVIRONMENTAL    CONDI

0204560003    DEMONSTRATE THAT LIGHT IS NECESSARY FOR GROWTH OF A      GREEN
              SUNLIGHT, TO LIGHT FROM AN ELECTRIC LAMP, AND TO         DARKN

0204560004    DEMONSTRATE THE CONDITIONS UNDER WHICH GREEN PLANTS      WILL
              CONDITIONS OF SOIL, WATER AND LIGHT AND COMPARING        RESUL

0204560005    KNOW THAT GREEN PLANTS GET THE MATTER FOR GROWTH FROM    WATER,

0204560006    DESCRIBE THAT LIGHT IS THE SOURCE OF ENERGY FOR GROWING  GREEN
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NDER WHICH PLANT THAT IS NOT      GREEN WILL GROW PLACING IN DIFFERENT LOCATIONS FRESH
ITH DIFFERENT AMOUNTS OF WATER    CAUSING NONGREEN PLANT GROWTH ON SOME.

 WITH WATER NOT ONLY HAVE TOO     MUCH WATER. BUT ARE NOT GETTING ENOUGH OXYGEN FROM THE
 DROWNING IN WATER.

ODED WITH WATER NOT ONLY HAVE     TOO MUCH WATER, BUT ARE NOT GETTING ENOUGH OXYGEN FROM
 ARE DROWNING IN WATER.

 MAY DIE FROM TOO MUCH WATER AS   WELL AS FROM COMPLETE LACK OF WATER.


MAY DIE FROM TOO MUCH WATER, OR   FROM COMPLETE LACK OF WATER, BY USING THREE POTS OF
ING ONE, WETTING ONE AND          DROWNING ONE, NOTING OUTCOME.

GHT AND LACK OF SUNLIGHT ON       GREEN LEAVES.


F SUNLIGHT AND LACK OF SUNLIGHT   ON GREEN LEAVES, BY COVERING SOME LEAVES WITH CARBON
THEN OBSERVING THE PALE COLOR OF  THE COVERED LEAVES.





ED THE RIGHT CONDITIONS FOR       GROWTH.


ROW AND OBSERVE ENVIRONMENTAL     CONDITIONS OF AT LEAST ONE PLANT.


S NECESSARY FOR GROWTH OF A       GREEN PLANT BY SUBJECTING GROWING RADISH SEEDLINGS TO
AN ELECTRIC LAMP, AND TO          DARKNESS, CAUSING MOST TO LEAST GROWTH.

NS UNDER WHICH GREEN PLANTS       WILL GROW BEST, BY GROWING SEEDS UNDER EIGHT DIFFERENT
R AND LIGHT AND COMPARING         RESULTS.

T THE MATTER FOR GROWTH FROM      WATER, SOIL, AND AIR.


E SOURCE OF ENERGY FOR GROWING    GREEN PLANTS.
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0204560007     CONTROL THE FNVIRONMENT OF A GROWING PLANT AND OBSERVE   WHAT HAP
               CHANGED.

0204560008     CONSTRUCT THRFE TESTS OF GROWING CONDITIONS.


0204560009     STATE THREF THINGS NECESSARY FOR A GROWING LAND PLANT.


0204560010     KNOW THAT MINERALS IMPORTANT FOR PLANT GROWTH ARE FOUND  IN SOIL


0204560011     KNOW THAT USING ENERGY FROM LIGHT, GREEN PLANTS MAKF     THEIR OW
               ENVIRONMENT.

0204560012     DEMONSTRATE THAT THE AMOUNT AND KIND OF LTGHT ENERGY     RECEIVED
               FOOD AND GROW.

0204560013     UNDERSTAND HOW THE ACTION OF DECAY RETURNS TO THE SOIL   COMPOUNDS


0204560014     DEMONSTRATE WAYS IN WHICH A GREEN PLANT MAY BE DEPENDENT UPON ANI


0204560015     DEMONSTRATE, IN A MULTIPLE CHOICE TEST, KNOWLEDGE OF     PLANTS U
               AND PROTEINS.




0205560        PLANTS (NEEDS)

0205560001     KNOW THAT GREFN PLANTS CAN DIRECTLY TRAP AND STORE THE   ENERGY O


0205560002     KNOW THAT LIGHT IS ESSENTIAL FOR THE MANUFACTURE OF      CARBOHYD


0205560003     KNOW THAT THF CAPTURE OF RADIANT ENERGY RY GREEN PLANTS  IS BASIC
               THINGS.

0205560004     DESCRIBE THAT PRESENCE OF LIGHT NECESSARY FOR            PHOTOSYN
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ING PLANT AND OBSERVE   WHAT HAPPENS TO IT WHEN THE ENVIRONMENTAL CONDITIONS AR

CONDITIONS.

A GROWING LAND PLANT.

PLANT GROWTH ARE FOUND  IN SOIL WATER.

, GREEN PLANTS MAKE     THEIR OWN FOODS FROM INORGANIC SUBSTANCES IN THE

IND OF LIGHT ENERGY     RECEIVED AFFECTS THE ABILITY OF GREEN PLANTS TO MAKE

Y RETURNS TO THE SOIL   COMPOUNDS ESSENTIAL TO GROWING PLANTS.

PLANT MAY BE DEPENDENT UPON ANIMALS IN ITS ENVIRONMENT.

TEST, KNOWLEDGE OF      PLANTS USING CARBON DIOXIDE AND NITROGEN TO MAKE SUGARS




LY TRAP AND STORE THE   ENERGY OF SUNLIGHT.

THE MANUFACTURE OF      CARBOHYDRATES BY CELLS IN A GREEN LEAF.

ENERGY BY GREEN PLANTS  IS BASIC TO THE GROWTH AND MAINTENANCE OF ALL LIVING

ECESSARY FOR            PHOTOSYNTHESIS TO FORM STARCH IN GREEN PLANTS.
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0205560005      INFER THE SOURCES OF THE CARBON, OXYGEN, AND HYDROGEN    A

0205560006      DEMONSTRATE STARCH ABSENT IN LEAF 1/2 COVERED FOR 3      D
                WITH HEATED ALCOHOL AND TEST WITH IODINE SOLUTION.
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ARBON, OXYGEN, AND HYDROGEN    A GREEN PLANTS USES IN PHOTOSYNTHESIS.

IN LEAF 1/2 COVERED FOR 3      DAYS, PRESENT IN UNCOVERED HALF.  REMOVE CHLOROPHYLL
ST WITH IODINE SOLUTION.
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0206565	PLANTS (NONGREEN)
0206565001	KNOW THAT NONGREEN PLANTS ARE INTERDEPENDENT WITH OTHER CONDITIONS FAVORABLE TO SURVIVAL.
0206565002	KNOW THAT BACTERIA, PLANTS WITHOUT CHLOROPHYLL, DEPEND
0206565003	KNOW NONGREEN PLANTS GROW AND REPRODUCE RAPIDLY IN A

S ARE INTERDEPENDENT WITH OTHER ORGANISMS FOR THEIR FOOD AND WITH THEIR ENVIRONMENT FOR SURVIVAL.

TS WITHOUT CHLOROPHYLL, DEPEND ON OTHER ORGANISMS FOR THEIR FOOD.

N AND REPRODUCE RAPIDLY IN A FAVORABLE ENVIRONMENT.

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0200570        PLANTS (PARTS)

0200570001     KNOW THE PARTS OF A PLANT AS ROOT, STEM, LEAF, FLOWER,

0200570002     IDENTIFY PARTS OF THE PLANT AS ROOT, STEM LEAF, FLOWER,


0201570        PLANTS (PARTS)

0201570001     DESCRIBE THE PROPERTIES OF A PLANT OR PART OF A PLANT.


0203570        PLANTS (PARTS)

0203570001     KNOW THE DIFFERENT PARTS OF A FLOWER AS PETALS, STAMENS,

0203570002     NAME PARTS OF A FLOWER, AS PETALS, STAMENS, POLLEN,

0203570003     IDENTIFY DIFFERENT PARTS OF A FLOWER BY OBSERVING WITH

0203570004     KNOW THE DIFFERENCE BETWEEN PARTS OF A PLANT THAT LOOK

0203570005     DISTINGUISH BETWEEN PARTS OF A PLANT THAT LOOK GREEN

0203570006     KNOW THAT THE GREEN COLOR IN THE LEAVES CAN BE REMOVED.

0203570007     DEMONSTRATE THAT GREEN COLOR IN THE LEAVES CAN BE
               CAUSING ALCOHOL TO TURN GREEN   THAT NO COLOR OCCURS


0204570        PLANTS (PARTS)
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OOT, STEM, LEAF, FLOWER, AND SEED.

ROOT, STEM LEAF, FLOWER, AND SEED.

LANT OR PART OF A PLANT.

FLOWER AS PETALS, STAMENS, POLLEN, PISTIL, AND OVULES.

ALS, STAMENS, POLLEN, PISTIL, AND OVULES.

FLOWER BY OBSERVING WITH A MAGNIFYING GLASS.

RTS OF A PLANT THAT LOOK GREEN (LEAVES) AND PARTS THAT DO NOT LOOK GREEN (ROOTS).

PLANT THAT LOOK GREEN (LEAVES) AND PARTS THAT DO NOT LOOK GREEN (ROOTS).

HE LEAVES CAN BE REMOVED.

N THE LEAVES CAN BE REMOVED BY SOAKING GREEN LEAVES IN WARMED ALCOHOL
THAT NO COLOR OCCURS WHEN ROOTS ARE TREATED IN SAME WAY.

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0204570001      MAKE MODELS AND DIAGRAMS OF DIFFERENT PLANT STRUCTURES,  BAS
                ACTUAL PLANTS.

0204570002      AFTER STUDYING DIAGRAMS OF VARIOUS PLANTS, DESCRIBE THE  STR




0205570         PLANTS (PARTS)

0205570001      CONSTRUCT 'RUBBING' OF LEAF.  PLACE LEAF, FACE DOWN      UND

0205570002      DESCRIBE THAT LEAF SKELETON IS MADE OF CELLULOSE AND     GIV
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I FERENT PLANT STRUCTURES, BASING THE MODELS ON OBSERVATIONS THEY HAVE MADE OF

U OUS PLANTS, DESCRIBE THE STRUCTURE AND PARTS OF A PLANT.

ER LACE LEAF, FACE DOWN UNDER PAPER, RUB CRAYON OVER OUTLINE OF LEAF.

ES MADE OF CELLULOSE AND GIVES LEAF STRENGTH AND STIFFNESS.

0202575	PLANTS (ROOTS)
0202575001	KNOW THAT GROWING SEEDS FORM ROOTS THAT GROW DOWNWARD TOWA
0202575002	DEMONSTRATE THAT GROWING SEEDS FORM ROOTS THAT GROW DOWN GLASS CONTAINERS IN DIFFERENT POSITIONS.
0203575	PLANTS (ROOTS)
0203575001	KNOW THE DIFFERENCE BETWEEN ROOT HAIRS ON THE MAIN ROOT OF A FOOD MARKET.
0203575002	IDENTIFY ROOT HAIRS ON THE MAIN ROOT OF A GROWING RADISH PLAN OBSERVING WITH A MAGNIFYING GLASS.
0204575	PLANTS (ROOTS)
0204575001	KNOW THAT PLANTS TAKE WATER THROUTH THEIR ROOTS.
0204575002	DEMONSTRATE THAT AS BEAN SEEDS SPROUT, ROOTS GROW DOWN BETWEEN MOIST BLOTTING PAPER AND SIDES OF GLASS JARS AND BY P

D ROOTS THAT GROW DOWNWARD TOWARDS THE EARTH.

A DS FORM ROOTS THAT GROW DOWNWARD TOWARDS THE EARTH, BY PLACING GROWING SEEDS IN
T POSITIONS.

G ROOT HAIRS ON THE MAIN ROOT OF A GROWING RADISH PLANT, AND ON A RADISH PLANT FROM A

, AIN ROOT OF A GROWING RADISH PLANT, AND ON A RADISH PLANT FROM A FOOD MARKET,
GLASS.

THROUTH THEIR ROOTS.

A DS SPROUT, ROOTS GROW DOWNWARD AND LEAVES GROW UPWARD BY SPROUTING SEEDS
A AND SIDES OF GLASS JARS AND BY PLACING THE JARS IN DIFFERENT POSITIONS.

0200580	PLANTS (SEEDS)
0200580001	KNOW THAT AN ASSORTMENT OF BEAN SEEDS CAN BE ORDERED ACCO
0200580002	ORDER AN ASSORTMENT OF BEAN SEEDS ACCORDING TO THEIR LIKE
0200580003	KNOW THAT BEAN SEEDS WILL SPROUT AND EXHTRIT DIFFERENCES IN T
0200580004	KNOW DIFFERENT WAYS TO SPROUT SEEDS, BY PLACING SOME ON A MO SOME IN SOIL, AND SOME IN WATER.
0200580005	DEMONSTRATE DIFFERENT WAYS TO SPROUT SEEDS, BY PLACING SOME GLASS, SOME IN SOIL, AND SOME IN WATER.
0200580006	DEMONSTRATE THAT BEAN SPEEDS WILL SPROUT AND EXHIBIT DIFFE OF SEEDS AND OBSERVING THEIR GROWTH.
0200580007	KNOW THAT WHEN SEEDS ARE PLANTED, THEY WILL SPROUT AND GROW
0200580008	DESCRIBE THAT WHEN SEEDS ARE PLANTED THEY WILL SPROUT AND CAME.
0200580009	DESCRIBE A GROWING SEED PLANT BY OBSERVING A COMPLETE DANDE

0201580	PLANTS (SEEDS)
0201580001	GIVEN SOME SFEDS, GROW A PLANT.
0201580002	KNOW THAT A NFW PLANT SPROUTS FROM A DRIFD LIMA BEAN, WHEN SEVERAL DAYS.
0201580003	OBSERVE DEVELOPMENT OF SEED. DRAW DIAGRAMS AND CONST DEVELOPMENTAL STAGES OF GROWTH FOR PLANTS.
0201580004	DEMONSTRATE THAT A NEW PLANT SPROUTS FROM A DRIED LIMA BEAN SEVERAL DAYS.

EAN SEEDS CAN BE ORDERED ACCORDING BY LIKENESSES OR DIFFERENCES.

SEEDS ACCORDING TO THEIR LIKENESSES OR DIFFERENCES.

ROUT AND EXHIBIT DIFFERENCES IN THEIR SPROUTS.

T SEEDS, BY PLACING SOME ON A MOIST SPONGE, SOME BETWEEN BLOTTING PAPER AND GLASS,
TER.

O SPROUT SEEDS, BY PLACING SOME ON A MOIST SPONGE, SOME BETWEEN BLOTTING PAPER AND
E IN WATER.

WILL SPROUT AND EXHIBIT DIFFERENCES IN THEIR SPROUTS, BY PLANTING VARIOUS KINDS
GROWTH.

NTED, THEY WILL SPROUT AND GROW INTO THE SAME KIND OF PLANT FROM WHICH THEY CAME.

PLANTED THEY WILL SPROUT AND GROW INTO THE SAME KIND OF PLANT FROM WHICH THEY

T BY OBSERVING A COMPLETE DANDELION PLANT, AND DISCUSSING PARTS OF THE PLANT.

NT.

S FROM A DRIED LIMA BEAN, WHEN IT HAS BEEN SOAKED IN WATER AND KEPT MOIST FOR

DRAW DIAGRAMS AND CONSTRUCT VIEWER TO OBSERVE GERMINATION AND
TH FOR PLANTS.

SPROUTS FROM A DRIED LIMA BEAN WHEN IT HAS BEEN SOAKED IN WATER AND KEPT MOIST FOR

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0201580005     PREPARE EXPERIMENT IN WHICH YOU TRY TO GROW SIMILIAR     SEEDS UN



0202580        PLANTS (SEEDS)

0202580001     IDENTIFY CONE, SCALE, AND SEED, BY OBSERVING MATURE PINE CONES.

0202580002     KNOW THAT PARTS OF A MATURE PINE CONE---CONE, SCALE,     AND SEED

0202580003     NAME PARTS AS CONE, SCALE, AND SEED ON MATURE PINE       CONES.

0202580004     DISTINGUISH BETWEEN GROWING BEAN AND CORN SEEDLINGS, BY  OBSERVIN

0202580005     KNOW THAT GRASS PLANTS GROW FROM GRASS SEEDS,            ILLUSTRA
               HEREDITY.
0202580006     DEMONSTRATE THAT GRASS PLANTS GROW FROM GRASS SEEDS,     ILLUSTRA
               HEREDITY.
0202580007     DEMONSTRATE THAT EACH ORGANISM GIVES RISE TO ITS OWN     KIND, BY

0202580008     KNOW THE DIFFERENCES BETWEEN GROWING BEAN AND CORN       SEEDLING

0202580009     IDENTIFY THE NEW PLANT AND FOOD FOR GROWTH IN LIMA       BEANS AN



0204580        PLANTS (SEEDS)

0204580001     KNOW THAT SEEDS TRANSMIT THE CHARACTERISTICS OF THE      PARENT P

0204580002     DEMONSTRATE THAT GROWING PLANTS EXERT FORCE BY SPROUTING SEEDS BE
               BE PRIED APART.
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 TRY TO GROW SIMILIAR     SEEDS UNDER TWO OR MORE DIFFERENT SOIL CONDITIONS.




 BY OBSERVING MATURE PINE CONES.

E CONE---CONE, SCALE,     AND SEED.

SEED ON MATURE PINE       CONES.

N AND CORN SEEDLINGS, BY  OBSERVING THEIR CHARACTERISTICS.

M GRASS SEEDS,            ILLUSTRATING THAT AN ORGANISM IS THE PRODUCT OF ITS

ROW FROM GRASS SEEDS,     ILLUSTRATING THAT AN ORGANSIM IS THE PRODUCT OF ITS

GIVES RISE TO ITS OWN     KIND, BY PLANTING BEAN AND CORN SEEDS.

OWING BEAN AND CORN       SEEDLINGS.

 FOR GROWTH IN LIMA       BEANS AND CORN SEEDS WHICH HAVE BEEN SOAKED IN WATER.



RACTERISTICS OF THE       PARENT PLANTS.

 EXERT FORCE BY SPROUTING SEEDS BETWEEN TWO GLASS PLATES CAUSING GLASS PIECES TO
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0204580003      DEMONSTRATE THAT SPROUTING SEEDS EXERT FORCE BY FILLING  S  SE
                PUTTING CONTATNER IN DARK FOR FEW DAYS UNTIL SEEDS       S  FOR
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SEEDS EXERT FORCE BY FILLING  SMALL BOTTLE WITH DRY BEANS ADDING WATER AND CORK AND
OR FEW DAYS UNTIL SEEDS       SPROUT PUSHING OUT CORK.
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0200585	PLANTS (TREES)
0200585001	KNOW THAT TREES HAVE SIMILARITIES WITH, AND DIFFERENC
0200585002	DESCRIBE THAT TREES HAVE SIMILARITIES WITH, AND OF SEEDS, FRUITS, AND OTHER TREE PARTS.
0206585	PLANTS (TREES)
0206585001	DEMONSTRATE TREE GRAFTING IN EARLY SPRING. PREPARE A CLOTH AND WAX.

MILARITIES WITH, AND DIFFERENCES FROM OTHER PLANTS.

E SIMILARITIES WITH, AND DIFFERENCES FROM OTHER PLANTS, BY OBSERVING A COLLECTION
THER TREE PARTS.

NG IN EARLY SPRING. PREPARE AND GRAFT 2 RELATED FRUIT TREE BRANCHES, COVER GRAFT WITH

0200590	PLANTS (WATER)
0200590001	KNOW THAT SOME PLANTS GROW IN WATER.
0200590002	DESCRIBE THAT SOME PLANTS GROW IN WATER, BY OBSERVING AQUAR AND SIMILARITTES WITH, AND DIFFERENCES FROM, OTHER PLANT
0200590003	KNOW THAT SEAWEEDS DIFFER FROM OTHER PLANTS IN THAT THEY LACK SPECIAL PLANT CLASS (ALGAE).
0200590004	DESCRIBE THAT SEAWEEDS DIFFER FROM OTHER PLANTS IN THAT THAT BELONG TO A SPEICAL PLANT CLASS (ALGAE).

W IN WATER.

GROW IN WATER, BY OBSERVING AQUARIUM PLANTS AND BY DISCUSSING THE PARTS OF PLANTS
D DIFFERENCES FROM, OTHER PLANTS.

FROM OTHER PLANTS IN THAT THEY LACK ROOTS, STEMS, LEAVES, AND FLOWERS, AND BELONG TO A
E).

FFER FROM OTHER PLANTS IN THAT THAT THEY LACK ROOTS, STEMS, LEAVES AND FLOWERS, AND
CLASS (ALGAE).

0202595	POLLUTION (WATER)
0202595001	DEMONSTRATE HOW WATER POLLUTION IS CAUSED AND PREDICT EXIST.

TION IS CAUSED AND PREDICT WHAT WILL HAPPEN IF THE POLLUTION FACTORS CONTINUE TO

0202600 POLLUTION (WATER AND AIR)

0202600001 DIVIDE INTO GROUPS AND GATHER INFORMATION ON
PAPER GIVING THEIR INFERENCES ON HOW ONE OF T

INFORMATION ON AT LEAST FIVE CAUSES OF AIR OR WATER POLLUTION AND WRITE A SHORT
ON HOW ONE OF THE POLLUTION FACTORS CAN BE ELIMINATED.

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0204605          RELATIVE POSITIONS OF STATIONARY AND MOVING OBJECTS

0204605001       RECOGNIZE WHETHER OR NOT AN OBJECT HAS MOVED RELATIVE


0204605002       TELL WHICH WAY AN OBJECT HAS MOVED RELATIVE TO YOU AN


0204605003       DESCRIBE THE POSITION OF AN OBJECT RELATIVE TO OTHER


0204605004       DESCRIBE DIRECTION OF MOVEMENT THAT AN OBJECT HAS AS
                 THAT OBSERVER.  DESCRIPTION COULD INCLUDE A REFERENCE

0204605005       RECOGNIZE EVIDENCE OF MOTION IN MOVIES OR FLIP-BOOK
                 THAT HAVE APPARENT MOTION.  NOTE CHANGES IN POSITION

0204605006       RECOGNIZE WHETHER OR NOT AN OBJECT HAS MOVED RELATIVE


0204605007       GIVEN ILLUSTRATIONS OF TWO OBJECTS OR SYSTEMS HAVING
                 SYSTEM IS MOVING FASTER AND WHICH IS MOVING SLOWER.

0204605008       DESCRIBE THE POSITION OF AN OBJECT AS SEEN BY ANOTHER
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N OBJECT HAS MOVED RELATIVE TO ANOTHER OBJECT (I.E., A REFERENCE OBJECT).

AS MOVED RELATIVE TO YOU AND A REFERENCE OBJECT.

N OBJECT RELATIVE TO OTHER OBJECTS.

MENT THAT AN OBJECT HAS AS SEEN BY ANOTHER OBSERVER RELATIVE TO THE POSITION OF
N COULD INCLUDE A REFERENCE TO ANOTHER OBJECT OR SYSTEM,

ON IN MOVIES OR FLIP-BOOK PICTURES BY REPORTING DIFFERENTIAL SPEEDS OF OBJECTS
NOTE CHANGES IN POSITION RELATIVE TO REFERENCE OBJECTS.

N OBJECT HAS MOVED RELATIVE TO ANOTHER OBJECT (I.E., A REFERENCE OBJECT).

OBJECTS OR SYSTEMS HAVING DIFFERENT RATES OF MOTION, RECOGNIZE WHICH OBJECT OR
D WHICH IS MOVING SLOWER. (RELATIVE MOTION CONCEPT).

N OBJECT AS SEEN BY ANOTHER PERSON.

0202610	REPRODUCTION
0202610001	CLASSIFY ANIMAL MOTHERS INTO THESE TWO GROUPS MOTHERS WHO HAV
0202610002	MATCH ANIMAL PARENTS TO THEIR OFFSPRING.
0202610003	IDENTIFY THE TERMS MALE, FEMALE, PARENT, AND OFFSPRING WHEN DI
0205610	REPRODUCTION
0205610001	KNOW THAT ORGANISMS REPRODUCE OTHER ORGANISMS LIKE THEMSEL
0206610	REPRODUCTION
0206610001	KNOW THAT SOME PLANTS CAN REPRODUCE NEW PLANTS FROM A PART OF
0206610002	KNOW THAT AN EMBRYO CONTAINS THE BEGINNING OF A NEW ORGANIS

THESE TWO GROUPS MOTHERS WHO HAVE LIVING BABIES AND MOTHERS WHO LAY EGGS.

OFFSPRING.

LE, PARENT, AND OFFSPRING WHEN DISCUSSING MEMBERS OF ANIMAL FAMILIES.

OTHER ORGANISMS LIKE THEMSELVES.

RODUCE NEW PLANTS FROM A PART OF THEMSELVES.

THE BEGINNING OF A NEW ORGANISM.

0200615	REPTILES (EXTINCT)
0200615001	KNOW THAT DINOSAURS ARE NO LONGER IN EXISTENCE, BUT ARE SI GER
0200615002	DESCRIBE DINOSAURS BY OBSERVING PICTURES OR MODELS AND DI G PI PRESENT DAY REPTILES.
0203615	REPTILES (EXTINCT)
0203615001	TELL WHAT EXTINCT MEANS.
0203615002	TELL WHY DINOSAURS ARE EXTINCT.
0208615	REPTILES (EXTINCT)
0208615001	RESEARCH HOW CHANGES OF ENVIRONMENT AFFECTED DINOSAURS. NMEN
0208615002	KNOW THAT FURTHER ADAPTATIONS LED TO DOMINANCE BY THE DI LED DISAPPEARANCE.

ER IN EXISTENCE, BUT ARE SIMILAR TO PRESENT DAY REPTILES.

PICTURES OR MODELS AND DISCUSSING THAT THEY NO LONGER EXIST, BUT ARE SIMILAR T

MENT AFFECTED DINOSAURS.

ED TO DOMINANCE BY THE DINOSAURS FAILURE TO ADAPT TO CHANGES LED TO THEIR

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0201620         SCIENTIFIC METHOD

0201620001      WITH SERIES OF EXPERIENCES RELATING TO OBSERVATION AND   INFERE
                SITUATION.


0202620         SCIENTIFIC METHOD

0202620001      KEEP AN ACCURATE RECORD OF OBJECTS USED IN EXPERIMENT    AND TH

0202620002      AFTER COLLECTING INFORMATION ABOUT HOW ORGANISMS         INTERA
                OF LISTS, NOTES, OR PICTURES.

0202620003      KEEP AN ACCURATE RECORD OF OBJECTS YOU HAVE OBSERVED     INTERA

0202620004      FOLLOWING A QUESTION AND ANSWER PERIOD DEFINING THE      DIFFER
                MAKE A LIST OF AT LEAST THREE DIFFERENCES BETWEEN AN     OBSERV


0204620         SCIENTIFIC METHOD

0204620001      KNOW THAT A HYPOTHESIS MUST BE TESTED WITH EVIDENCE.

0204620002      KNOW THAT A HYPOTHESIS IS BASED ON OBSERVATION AND       ANALYS
                DESIGN OF THE INVESTIGATION.

0204620003      EXPLAIN THE MEANING OF THE WORD HYPOTHESIS.

0204620004      IN RESPONSE TO A REQUEST TO DO SO, DESCRIBE DESIGNS THAT WOULD
                MODEL CAN BE USED TO EXPLAIN A GIVEN PHENOMENON.

0204620005      PROVIDED WITH A SERIES OF EXPERIENCES RELATING TO        'OBSERV
                EXAMPLES OF THOSE WHICH ARE OBSERVATIONS AND THOSE       WHICH

0204620006      UNDERSTAND THE USEFULNESS OF THE CONCEPT OF CHANGE.

0204620007      AFTER OBSERVING A CHANGE IN AN OBJECT UNDER CONTROLLED   PHYSIC
                FOR THE CHANGE.
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ELATING TO OBSERVATION AND   INFERENCES MAKE OBSERVATION AND INFERENCE ABOUT A



BJECTS USED IN EXPERIMENT    AND THE RESULTS OF EXPERIMENT.

 ABOUT HOW ORGANISMS         INTERACT WITH THEIR ENVIRONMENT, RECORD IT IN THE FORMS
.

BJECTS YOU HAVE OBSERVED     INTERACTING AT A DISTANCE (MAGNETISM).

KER PERIOD DEFINING THE      DIFFERENCE BETWEEN AN 'OBSERVATION'  AND AN 'INFERENCE',
E DIFFERENCES BETWEEN AN     OBSERVATION AND AN INFERENCE WITH 100 PER CENT ACCURACY.



RE TESTED WITH EVIDENCE.

SED ON OBSERVATION AND       ANALYSIS OF OBJECTS AND EVENTS.  IT DETERMINES THE

ORD HYPOTHESIS.

DO SO, DESCRIBE DESIGNS THAT WOULD BE APPROPRIATE TO ILLUSTRATE THAT MORE THAN ONE
 A GIVEN PHENOMENON.

PERIENCES RELATING TO        'OBSERVATION' AND 'INFERENCES', SELECT FROM A LIST OF
OBSERVATIONS AND THOSE       WHICH ARE INFERENCES WITH 100 PER CENT ACCURACY.

 THE CONCEPT OF CHANGE.

 AN OBJECT UNDER CONTROLLED  PHYSICAL CONDITIONS, ANALYZE AND HYPOTHESIZE A REASON
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0204620008	AFTER OBSERVING A CHANGE IN AN OBJECT UNDER CONTROLLED PHYSICA OBJECT UNDER UNCONTROLLED PHYSICAL CONDITION.
0204620009	DESIGN A SIMPLE EXPERIMENT WHICH DEMONSTRATES APPLICA INERTIA).
0204620010	DESIGN SIMPLE EXPERIMENT, WHICH DEMONSTRATES APPLICATION OF NEWT IT WITH VARIABLES, DRAW CONCLUSIONS AND MAKE GENERAL
0204620011	DESIGN THREE EXPERIMENTS WHICH DEMONSTRATE 1. INCREASE OR DECR FUNCTION OF TIME (V) (TERMINAL).
0204620012	DESIGN EXPERIMENT IN WHICH THESE PRINCIPLES OF LEARNING ARE DEMO OBSERVATIONS, USING VARIABLES, KEEPING RECORDS, DRAWING CONCLUS
0204620013	DESIGN AN EXPERIMENT IN WHICH PRINCIPLES OF LEARNING ARE DEMONST FORGETTING, AND RELEARNING.
0205620	SCIENTIFIC METHOD
0205620001	APPRECIATE THE PROBLEMS THAT INTEREST A SCIENTIST AND SOME OF
0205620002	ASSOCIATE SCIENCE WITH EVIDENCE AND REASONING.
0205620003	DESIGN EXPERIMENT SHOWING RELATIONSHIP BETWEEN TIME IT TAKES F TEMPERATURE. USE THESE STEPS. 1. HYPOTHESIS, 2. DESIGN,
0205620004	EXAMINE INFERENCES ON WHICH A THEORY IS BUILT AND REALIZE
0205620005	IN RESPONSE TO A REQUEST TO DO SO, DESCRIBE DESIGNS THAT WOULD BE MODEL CAN BE USED TO EXPLAIN A GIVEN PHENOMENON.
0205620006	CONSTRUCT A DIAGRAM WITH LABELS TO DEMONSTRATE THAT MORE THA GIVEN MODEL.

OBJECT UNDER CONTROLLED PHYSICAL CONDITION, HYPOTHESIZE WHAT WILL HAPPEN TO THE
CAL CONDITION.

H DEMONSTRATES APPLICATION OF NEWTON'S FIRST LAW OF MOTION (LAW OF

DEMONSTRATES APPLICATION OF NEWTON'S BASIC LAWS BY DEVELOPING HYPOTHESIS. TEST
IONS AND MAKE GENERALIZATIONS.

DEMONSTRATE 1. INCREASE OR DECREASE OF SPEED OF AN OBJECT. 2. VELOCITY AS
.

E PRINCIPLES OF LEARNING ARE DEMONSTRATED FORMULATING AN HYPOTHESIS FROM
KEEPING RECORDS, DRAWING CONCLUSIONS AND MAKING GENERALIZATIONS.

RINCIPLES OF LEARNING ARE DEMONSTRATED MEMORIZATION, REACTIVE INHIBITION,

TEREST A SCIENTIST AND SOME OF THE METHODS HE USES IN TRYING TO SOLVE THEM.

AND REASONING.

IONSHIP BETWEEN TIME IT TAKES FOR SUBSTANCE TO DISSOLVE IN WATER AND
1. HYPOTHESIS, 2. DESIGN, 3. RECORD OF OBSERVATIONS, 4. CONCLUSIONS.

HEORY IS BUILT AND REALIZE THAT EVERY THEORY MUST BE TESTED BY EVIDENCE.

SO, DESCRIBE DESIGNS THAT WOULD BE APPROPRIATE TO ILLUSTRATE THAT MORE THAN ONE
GIVEN PHENOMENON.

TO DEMONSTRATE THAT MORE THAN ONE MODEL CAN SOMETIMES BE USED TO EXPLAIN A

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0206620         SCIENTIFIC METHOD

0206620001      KNOW THAT ACHIEVEMENT OF A GOAL INVOLVES INSIGHT AND      REQUIRE

0206620002      KNOW THAT DISCOVERY OF NEW PROCESSES AND PRODUCTS         DEPENDS
                EARLIER TECHNOLOGICAL ADVANCES.

0206620003      KNOW THAT INVENTION OF NEW MATERIALS DEPENDS ON           UNDERST

0206620004      KNOW THAT A CONCEPT IS ARRIVED AT ONLY AFTER CAREFUL AND EXTENSI

0206620005      RECOGNIZE THAT THE HABIT OF SEEKING RELATIONSHIPS         BETWEEN

0206620006      GAIN FURTHER INSIGHT INTO REFINING PLANS FOR              INVESTI

0206620007      KNOW THAT A SCIENTIST IN HIS INVESTIGATIONS USES THE      PROCESS

0206620008      KNOW THAT BY STUDYING AND APPLYING CONCEPTS, SCIENTISTS  HAVE FO

0206620009      KNOW THAT CONCEPTS ARE A BASE FOR DRAWING INFERENCES.

0206620010      KNOW THAT SEARCHING FOR HIDDEN LIKENESSES LEADS TO        CONCEPT

0206620011      KNOW THAT TECHNOLOGISTS APPLY CONCEPTS.

0206620012      DEMONSTRATE THE TESTING OF HYPOTHESIS, INDICATING         WHETHER
                THE RESULTS.
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INVOLVES INSIGHT AND REQUIRES MAKING OF DEFINITE PLANS.

ESSES AND PRODUCTS DEPENDS ON UNDERSTANDING CONCEPTS IN SCIENCE, AS WELL A

RIALS DEPENDS ON UNDERSTANDING BASIC CONCEPTS OF SCIENCE.

AT ONLY AFTER CAREFUL AND EXTENSIVE INVESTIGATIONS AND EXPERIMENTS.

KING RELATIONSHIPS BETWEEN CONCEPTS CAN LEAD TO NEW DISCOVERIES.

ING PLANS FOR INVESTIGATIONS.

VESTIGATIONS USES THE PROCESSES OF LEARNING.

ING CONCEPTS, SCIENTISTS HAVE FOUND A MEANS FOR CONQUERING MANY DISEASES.

OR DRAWING INFERENCES.

LIKENESSES LEADS TO CONCEPTS.

ONCEPTS.

THESIS, INDICATING WHETHER OR NOT HE ACCEPTS HIS OWN HYPOTHESIS, BASED ON

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0202625        SOIL

0202625001     EXPLAIN DIFFFRENT WAYS ROCK IS BROKEN DOWN TO BECOME     SOIL.

0202625002     GIVEN A CROSS-SECTION OF SOILS, RECOGNIZE LAYERS AS      TOPSO

0202625003     DESCRIBE THE THINGS WE FIND IN DARK TCPSOIL THAT ARE NOT FOUND

0202625004     TELL THE THINGS SOIL MUST HAVE TO MAKE PLANTS GROW WELL.

0202625005     TELL HOW SOIL HELPS ANIMALS.

0202625006     TELL WAYS THAT ANIMALS HELP TO MAKE GOOD SOIL.

0202625007     TELL THE WAYS PLANTS HELP MAKE GOOD SOIL.


0203625        SOIL

0203625001     EXPLAIN 'THE EARTH'S GREATEST TREASURES ARE IN THE       SOIL.

0203625002     DO RESEARCH IN LIBRARY AND IN COMMUNITY TO FIND OUT HOW  TO CO

0203625003     KNOW THAT DIFFERENT KINDS OF SOILS HOLD VARYING AMOUNTS  OF WA

0203625004     DEMONSTRATE DIFFERENT KINDS OF SOILS HOLDING VARYING     AMOUN
               POURING EQUAL AMOUNTS OF WATER   CBSERVING DIFFERENT     AMOUN
0203625005     KNOW THAT HUMUS SOIL HOLDS MORE WATER THAN GARDEN SOIL   AND T

0203625006     IDENTIFY THAT HUMUS SOIL HOLDS MORE WATER THAN GARDEN    SOIL
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CK IS BROKEN DOWN TO BECOME       SOIL.

SOILS, RECOGNIZE LAYERS AS        TOPSOIL, SUBSOIL, AND BEDROCK.

ND IN DARK TOPSOIL THAT ARE NOT FOUND IN SAND AND SUBSOIL.

 HAVE TO MAKE PLANTS GROW WELL.

LS.

LP TO MAKE GOOD SOIL.

 MAKE GOOD SOIL.




TEST TREASURES ARE IN THE         SOIL.'

D IN COMMUNITY TO FIND OUT HOW    TO CONSERVE SOIL.

 OF SOILS HOLD VARYING AMOUNTS    OF WATER.

DS OF SOILS HOLDING VARYING       AMOUNTS OF WATER BY PLACING DIFFERENT TYPE INTO TIN CAN
WATER   OBSERVING DIFFERENT       AMOUNTS OF WATER PASSING THROUGH SOIL.

S MORE WATER THAN GARDEN SOIL     AND THAT GARDEN SOIL HOLDS MORE WATER THAN SAND.

HOLDS MORE WATER THAN GARDEN      SOIL AND THAT GARDEN SOIL HOLDS MORE WATER THAN SAND.
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0203625007	KNOW THAT GARDEN SOIL CONTAINS WATER, A LIQUID.
0203625008	DEMONSTRATE THAT GARDEN SOIL CONTAINS A LIQUID (WATER) BY HE DROPS OF LIQUID TO COLLECT ON THE INSIDE OF THE POT.
0203625009	KNOW THAT GARDEN SOIL CONTAINS AIR.
0203625010	DEMONSTRATE THAT GARDEN SOIL CONTAINS AIR, BY POURING WATER FROM THE SOIL UP THROUGH THE WATER AND OUT INTO THE AIR.
0203625011	KNOW THAT GARDEN SOIL CONTAINS MATERIALS THAT WILL PASS THROU
0203625012	DEMONSTRATE THAT DISSOLVED MATERIALS IN WATER-SOIL MIXTU COLLECTED THROUGH FILTER INTO A SHALLOW GLASS PAN, ALLOW
0203625013	KNOW THAT THE SUBSTANCES LEFT AFTER EVAPORATION OF WATER
0203625014	NAME, AS MINERALS, THE SUBSTANCES LEFT FROM EVAPORATION OF TH
0203625015	KNOW THAT DISSOLVED MATERIALS IN THE WATER-SOIL MIXTURE CAN B
0203625016	DEMONSTRATE THAT SOIL CONTAINS MATERIALS THAT WILL PASS THROU POURING THE MIXTURE INTO A FILTER, CAUSING THE CLOUDY LIQUI
0204625	SOIL
0204625001	KNOW THAT MOVING WATER CONTAINS MANY PARTICLES OF SOIL.
0204625002	DEMONSTRATE SOME SOIL SUBSTANCES DISSOLVE IN WATER BY MIXIN EVAPORATING WATER THAT PASSES THROUGH LEAVING RESIDUE OF PARTI
0204625003	KNOW THAT WATER CAN CARRY SOIL OVER LONG DISTANCES.

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ER, A LIQUID.

INS A LIQUID (WATER)   BY HEATING SOIL IN A COVERED GLASS COOKING POT, CAUSING
INSIDE OF THE POT.

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INS AIR, BY POURING    WATER SLOWLY OVER SOIL IN A JAR, CAUSING BUBBLES TO RISE
 AND OUT INTO THE AIR.

ERIALS THAT WILL PASS  THROUGH A FILTER.

LS IN WATER-SOIL       MIXTURE CAN BE RECOVERED, BY POURING CLOUDY WATER
ALLOW GLASS PAN,       ALLOWING LIQUID TO EVAPORATE, LEAVING SUBSTANCES.

R EVAPORATION OF       WATER-SOIL MIXTURE ARE CALLED MINERALS.

LEFT FROM EVAPORATION  OF THE WATER-SOIL MIXTURE.

HE WATER-SOIL MIXTURE  CAN BE RECOVERED.

ERIALS THAT WILL PASS  THROUGH A FILTER, BY MIXING GARDEN SOIL AND WATER   THEN
 CAUSING THE CLOUDY    LIQUID TO PASS THROUGH.




NY PARTICLES OF SOIL.

ISSOLVE IN WATER BY    MIXING SOIL AND DISTILLED WATER, FILTERING MIXTURE,
UGH LEAVING RESIDUE OF PARTICLES.

R LONG DISTANCES.
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0204625004	KNOW HOW SLOW-MOVING WATER CAN BUILD UP LAND.
0204625005	KNOW HOW FLOODING WATERS BUILD UP THE SOIL IN VALLEYS.
0204625006	KNOW THAT AS WATER SLOWS DOWN AT THE MOUTH OF A RIVER, IT
0204625007	KNOW HOW TREES HOLD SOIL WITH THEIR ROOTS AND THEY PRO
0204625008	DEMONSTRATE THAT PLANTS (ROOTS) HOLD SOIL.
0204625009	DEMONSTRATE THAT FALLEN LEAVES HELP TO HOLD SOIL BY PLA OVER LEAVES CAUSING SAND TO BE WASHED AWAY EXCEPT UNDER LEA

TER CAN BUILD UP LAND.	
S BUILD UP THE SOIL IN VALLEYS.	
S DOWN AT THE MOUTH OF A RIVER,	IT DEPOSITS SOIL.
L WITH THEIR ROOTS AND THEY	PROVIDE COVER.
(ROOTS) HOLD SOIL.	
LEAVES HELP TO HOLD SOIL BY D TO BE WASHED AWAY EXCEPT UNDER	PLACING LEAVES ON THIN LAYER OF SAND SPRINKLING WATER LEAVES.

0201630	SOLAR SYSTEM
0201630001	DEMONSTRATE THE SUN-MOON-EARTH LIGHT RELATIONSHIP, BY SHINING CAUSING IT TO REFLECT ONTO AN EARTH GLOBE.
0202630	SOLAR SYSTEM
0202630001	KNOW THAT THE EARTH REVOLVES IN AN ORBIT AROUND THE SUN.
0202630002	KNOW THAT THE EARTH ROTATES AS IT REVOLVES AROUND THE SUN.
0202630003	DEMONSTRATE THAT THE EARTH ROTATES AS IT REVOLVES AROUND THE SUN, AND BY REVOLVING THE EARTH GLOBE AS IT IS MOVED AROUND THE LAMP
0202630004	DEMONSTRATE THAT THE EARTH REVOLVES IN AN ORBIT AROUND THE SUN, THE SUN AND EARTH.
0202630005	KNOW THAT THE LIGHTED AREA OF THE MOON CHANGES SHAPE, IN RELATION
0202630006	DEMONSTRATE HOW THE LIGHTED AREA OF THE MOON CHANGES SHAPE, I BY USING AN ORANGE AND A FLASHLIGHT.
0203630	SOLAR SYSTEM
0203630001	STATE THE 'BIG IDEA' OF THIS UNIT---ALL THE PLANETS AND THEIR MO
0203630002	USING A PICTURE SHOWING POSITION OF PLANETS AND THE SUN, TELL WHI THAN THE EARTH.
0203630003	NAME THE PLANETS IN ORDER OF THEIR DISTANCE FROM THE SUN.
0203630004	EXPLAIN WHY WE THINK THAT EARTH IS THE ONLY PLANET ON WHICH WE
0203630005	TELL WHICH PLANET HAS MANY GREEN PLANTS AND MANY ANIMALS.

LIGHT RELATIONSHIP, BY SHINING A FLASHLIGHT BEAM AGAINST WHITE PAPER AND
ARTH GLOBE.

AN ORBIT AROUND THE SUN.

IT REVOLVES AROUND THE SUN.

TES AS IT REVOLVES AROUND THE SUN, BY USING AN EARTH GLOBE AND AN ELECTRIC LAMP,
E AS IT IS MOVED AROUND THE LAMP.

LVES IN AN ORBIT AROUND THE SUN, BY USING A LARGE AND SMALL BALL AS MODELS OF

HE MOON CHANGES SHAPE, IN RELATION TO THE SUN, EARTH, AND MOON POSITIONS.

A OF THE MOON CHANGES SHAPE, IN RELATION TO THE SUN, EARTH, AND MOON POSITIONS
IGHT.

IT---ALL THE PLANETS AND THEIR MOONS GET THEIR ENERGY FROM THE SUN.

N OF PLANETS AND THE SUN, TELL WHICH TWO PLANETS RECEIVE MORE HEAT FROM THE SUN

EIR DISTANCE FROM THE SUN.

IS THE ONLY PLANET ON WHICH WE COULD LIVE.

N PLANTS AND MANY ANIMALS.

0203630006	TELL DIFFERENCE BETWEEN ROTATION AND REVOLUTION OF THE	EART
0203630007	RECOGNIZE HOW ROTATION AND REVOLUTION CAUSE CHANGES IN EARTH.	LENG
0203630008	USE A PLANETARIUM AND KNOWLEDGE GAINED FROM INDIVIDUAL FROM THE SUN, AND ITS REVOLUTION AND ROTATION DETERMINE	STUD WHAT
0203630009	USING A PICTURE SHOWING POSITION OF PLANETS AND THE SUN, HEAT FROM THE SUN.	TELL
0203630010	DEMONSTRATE THE PATH OF THE MOON, BY USING PEOPLE AS MOON AROUND THE EARTH SO THAT THE STUDENT-MOON ALWAYS	MODE FACE
0203630011	KNOW THE PATH OF THE MOON IN RELATIONSHIP TO THE SUN	AND
0203630012	DESCRIBE THAT ONE SIDE OF THE MOON ALWAYS FACES THE WAY THE STUDENT FACES AS THE PATH OF THE MOON IS	EART DEMO
0203630013	KNOW THAT ONE SIDE OF THE MOON ALWAYS FACES THE EARTH	BUT
0203630014	USE A PLANETARIUM AND SHOW HOW AND WHY THE MOON APPEARS	TO C
0203630015	DESCRIBE SIZE, SHAPE, COLOR, STATE OF MATTER, AND	TEMP
0203630016	IF GIVEN ACCESS TO TELESCOPE, COMPARE HOW THE MOON LOOKS	THRO
0203630017	USE MATHEMATICAL EQUATION TO SHOW HOW THE MASS OF MOON	AFFE
0204630	SOLAR SYSTEM	
0204630001	GIVEN INFORMATION ON THE PLANETS OF OUR SOLAR SYSTEM	ORAL

TATION AND REVOLUTION OF THE EARTH.

REVOLUTION CAUSE CHANGES IN LENGTH OF DAYLIGHT AND TYPE OF SEASON ON GIVEN AREA OF

LEDGE GAINED FROM INDIVIDUAL STUDY TO DISCUSS HOW THE SIZE OF A PLANET, ITS POSITION
LUTION AND ROTATION DETERMINE WHAT IT IS LIKE.

SITION OF PLANETS AND THE SUN, TELL WHICH PLANET HAS MOST NEARLY THE SAME AMOUNT OF

E MOON, BY USING PEOPLE AS MODELS OF THE MOON, EARTH, AND SUN, AND BY MOVING THE
HAT THE STUDENT-MOON ALWAYS FACES THE EARTH.

IN RELATIONSHIP TO THE SUN AND EARTH.

THE MOON ALWAYS FACES THE EARTH BUT DOES NOT ALWAYS FACE THE SUN, BY OBSERVING THE
HE PATH OF THE MOON IS DEMONSTRATED.

MOON ALWAYS FACES THE EARTH BUT DOES NOT ALWAYS FACE THE SUN.

HOW AND WHY THE MOON APPEARS TO CHANGE.

R, STATE OF MATTER, AND TEMPERATURE OF SUN AND EARTH.

PE, COMPARE HOW THE MOON LOOKS THROUGH A TELESCOPE WITH HOW IT LOOKS TO THE EYE.

TO SHOW HOW THE MASS OF MOON AFFECTS THE WEIGHT OF AN OBJECT ON THE MOON.

LANETS OF OUR SOLAR SYSTEM ORALLY DESCRIBE FIVE OF THE NINE PLANETS.

0204630002	GIVEN REFERENCE MATERIALS ABOUT PLANETS, TRANSLATE THE PLANET MODELS.
0204630003	KNOW THAT SINCE CHANGE IS CONSTANT ALL LIVING THINGS CHANGE. SPACE ARE CONSTANTLY CHANGING.
0204630004	KNOW THAT AN OBJECT TENDS TO MOVE IN A STRAIGHT LINE.
0204630005	DEMONSTRATE THAT BALL ATTACHED TO SLACK THREAD WILL ROLL IN STRAI TO TAUT THREAD WILL ROLL IN CURVED LINE WHEN PUSHED.
0204630006	KNOW THAT THE SHAPE OF ORBITS AND THE POSITION OF BODIES IN SPACE
0204630007	UNDERSTAND WHY THE MOTION AND PATH OF CELESTIAL BODIES ARE PRE
0204630008	KNOW THAT IT OCCURED TO NEWTON THAT THE PULL OF GRAVITAT
0204630009	KNOW THAT THE MOON IS MOVING IN AN ORBIT AROUND THE EARTH.
0204630010	KNOW THAT THE PULL OF GRAVITATION BETWEEN EARTH AND MOON SHAPES
0204630011	KNOW THAT THE MOON TAKES ABOUT 28 DAYS TO MAKE ONE COMPLETE
0204630012	KNOW WHY THE CHANGING SHAPE OF THE MOON IS DUE TO ITS MOTION
0204630013	DEMONSTRATE HOW MOON'S SHAPE SEEMS TO CHANGE BY HOLDING BALL AND CAUSING LIGHTED PART OF BALL TO CHANGE SHAPE.
0204630014	GIVEN REMOTE LIGHT SOURCE, DESCRIBE THAT SHAPE OF LIGHTED THE BALL CIRCLES BUT DOES NOT APPEAR TO CHANGE TO ANY OTHER OB
0204630015	PREDICT THE OBSERVABLE CHANGES IN THE MOON OVER A PERIOD OF 14 OR ORBIT AND THE MOTION OF THE MOON.

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BOUT PLANETS, TRANSLATE THE   PLANET MEASUREMENTS INTO SCALE TERMS AND CONSTRUCT

ONSTANT ALL LIVING THINGS     CHANGE.  THEREFORE EARTH AND ALL THE OTHER BODIES IN
NG.

 MOVE IN A STRAIGHT LINE.

HED TO SLACK THREAD WILL ROLL IN STRAIGHT LINE WHEN IT IS PUSHED AND THAT ONE ATTACHE
 CURVED LINE WHEN PUSHED.

TS AND THE POSITION OF BODIES IN SPACE ARE PREDICTABLE.

ND PATH OF CELESTIAL BODIES   ARE PREDICTABLE.

ON THAT THE PULL OF           GRAVITATION EXTENDED BEYOND THE EARTH TO THE MOON.

 IN AN ORBIT AROUND THE       EARTH.

TATION BETWEEN EARTH AND MOON SHAPES THE MOON'S ORBIT AROUND THE EARTH.

UT 28 DAYS TO MAKE ONE        COMPLETE ORBIT AROUND THE EARTH.

 OF THE MOON IS DUE TO ITS    MOTION AROUND THE EARTH.

 SEEMS TO CHANGE BY HOLDING   BALL AND TURNING IT SLOWLY WHILE FLASHLIGHT SHINES ON IT
 TO CHANGE SHAPE.

DESCRIBE THAT SHAPE OF        LIGHTED PART OF BALL APPEARS TO CHANGE TO OBSERVER WHOM
T APPEAR TO CHANGE TO ANY     OTHER OBSERVER.

ES IN THE MOON OVER A PERIOD OF 14 OR 28 NIGHTS RELATING THE CHANGES TO THE SHAPE OF
 MOON.
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0204630016	SHOW UNDERSTANDING OF THESE WORDS IN A MATCHING TEST ELLIPSE.
0204630017	KNOW THAT THE HEAD OF A COMET IS A MIXTURE OF ICE AND
0204630018	KNOW THAT A COMET, LIKE THE MOON, MAY TRAVEL IN A
0204630019	KNOW THAT THE GRAVITATIONAL PULL OF JUPITER MAY AFFECT
0204630020	KNOW THAT THE ORBIT OF HALLEY'S COMET IS AN ELLIPSE.
	HISTORY REASONING FOR SUCH PREDICTION.
0204630022	KNOW WHY SOME COMETS DO NOT RETURN.
0204630023	CONSTRUCT MODEL OF ORBIT OF COMET BY DRAWING ON FLOOR CHALK TO TRACE ORBIT LIKE THAT OF COMET.
0204630024	KNOW THAT METEORS MAY BE FRAGMENTS OF DISINTEGRATED
0204630025	KNOW THAT FRICTION OF A METEOR AGAINST THE ATMOSPHERE
0204630026	KNOW WHY METEORS DO NOT APPEAR AT REGULAR TIMES.
0204630027	IDENTIFY METEORS BY OBSERVING THE NIGHT SKY DURING
0204630028	DESCRIBE METEORS BY RECORDING THEIR CHARACTERISTICS AS

WORDS IN A MATCHING TEST   FULL MOON, HALF MOON, METEOR, METEORITE, COMET, AND

T IS A MIXTURE OF ICE AND   ROCK.

MOON, MAY TRAVEL IN A   PREDICTABLE ORBIT.

PULL OF JUPITER MAY AFFECT   HALLEY'S COMET.

EY'S COMET IS AN ELLIPSE.

RELATING SHAPE OF ORBIT, MOTION AROUND THE SUN AND PAST

PREDICTION.

RETURN.

COMET BY DRAWING ON FLOOR   SCALE MODEL OF PART OF SOLAR SYSTEM USING STRING AND
HAT OF COMET.

AGMENTS OF DISINTEGRATED   COMETS.

EOR AGAINST THE ATMOSPHERE   RESULTS IN HEAT AND LIGHT.

EAR AT REGULAR TIMES.

NG THE NIGHT SKY DURING   TIMES OF METEOR SHOWERS.

NG THEIR CHARACTERISTICS AS   BRIGHTNESS, COLOR, DIRECTION PATHS, AND LASTING TIME.

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0205630        SOLAR SYSTEM

0205630001     CONSTRUCT MODEL OF SUN-EARTH-MOON SYSTEM.

0205630002     GIVEN THE PROPERTIES OF THE PLANETS OF OUR SOLAR SYSTEM, ORDER
               OR NUMBER OF MOONS.

0205630003     GIVEN THE PROPERTIES OF THE PLANETS, COMPARE THE KNOWN   PHYSIC

0205630004     CONSTRUCT DIAGRAM OF ELLIPTICAL SHAPE OF EARTH'S ORBIT.  USE PA
               ACCORDING TO ARRANGEMENT IN TEXT.

0205630005     DEMONSTRATE MOVING THUMB TACKS FARTHER APART CAUSES MORE ELONGA
               CIRCLE.

0205630006     CONSTRUCT HYPOTHESIS OF WHAT ELLIPSE WILL LOOK LIKE IF   THUMB

0205630007     DESCRIBE THAT TIME IS LEAST FOR EARTH TO ROTATE, MORE    FOR MO
               REVOLVE AROUND SUN.

0205630008     KNOW THAT BODIES IN SPACE, AS WELL AS THEIR MATTER AND   ENERGY

0205630009     KNOW THAT THE EARTH IS IN CONSTANT MOTION.

0205630010     KNOW THAT BODIES IN SPACE, AS WELL AS THEIR MATTER AND   ENERGY

0205630011     KNOW THAT TO ALTER THE PATH OF A BODY IN SPACE, ENERGY   MUST BE
               GRAVITATIONAL PULL AND INERTIAL MOTION.

0205630012     KNOW THAT INERTIA AND GRAVITATION AFFECT THE PATH OF     BODIES

0205630013     KNOW THAT THE MASSES OF THE SUN AND THE PLANETS DIFFER   HENCE,

0205630014     INFER THE NEWTON'S LAWS OF GRAVITATION AND MOTION HELP   EXPLAIN
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N SYSTEM.

ETS OF OUR SOLAR SYSTEM, ORDER AT LEAST THREE PLANETS ACCORDING TO COLOR, SIZE,

ETS, COMPARE THE KNOWN   PHYSICAL FEATURES OF TWO PLANETS.

SHAPE OF EARTH'S ORBIT.  USE PAPER, PENCIL, RULER, 2 THUMB TACKS, STRING
.

ARTHER APART CAUSES MORE ELONGATED ELLIPSE   MOVE TOGETHER MAKES ORBIT MORE LIKE

IPSE WILL LOOK LIKE IF   THUMB TACKS ARE MOVED CLOSER OR FARTHER.

EARTH TO ROTATE, MORE    FOR MOON TO REVOLVE AROUND EARTH, GREATEST FOR EARTH TO

LL AS THEIR MATTER AND   ENERGY, ARE IN CONSTANT CHANGE.

NT MOTION.

LL AS THEIR MATTER AND   ENERGY, ARE IN CONSTANT CHANGE.

 BODY IN SPACE, ENERGY   MUST BE APPLIED TO AFFECT THE RELATIONSHIP BETWEEN
MOTION.

N AFFECT THE PATH OF     BODIES TRAVELING IN SPACE.

AND THE PLANETS DIFFER   HENCE, THEIR GRAVITATIONAL PULLS DIFFER.

TATION AND MOTION HELP   EXPLAIN THE ORIGIN OF THE SOLAR SYSTEM.
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0205630015      SENSE HOW SCIENTISTS AND ENGINEERS CAN PREDICT ORBITS.

0205630016      KNOW THAT THE POSITION AND MOTION OF THE MOON ARE       A

0205630017      KNOW THAT EXPLORATION OF THE MOON DEPENDS UPON          UN
                SPACE ARE AFFECTED BY GRAVITATION AND INERTIAL MOTION.

0205630018      KNOW THAT ROTATION AND REVOLUTION DIFFER FOR DIFFERENT  B

0205630019      SENSE SOME RELATIONSHIPS BETWEEN DISTANCES AND TIME IN  S

0205630020      DISCOVER THAT ENORMOUS DISTANCES IN SPACE REQUIRE A NEW UN

0205630021      REASON OUT A METHOD FOR MEASURING THE DISTANCE TO       O

0205630022      RELATE THEIR KNOWLEDGE OF THE LAWS OF MOTION TO A MOON  LA

0205630023      KNOW THAT THE FLIGHT OF A SPACECRAFT TO THE MOON IS     A

0205630024      FIGURE HIS WEIGHT IF ONE COULD GET COMPLETELY AWAY FROM G

0205630025      GIVE CORRECT ANSWERS ABOUT ONE'S MASS ON THE MOON.

0205630026      GIVE AN EXAMPLE OF HOW ONE WOULD FIGURE ONE'S WEIGHT ON TH
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ENGINEERS CAN PREDICT ORBITS.

ND MOTION OF THE MOON ARE AFFECTED BY GRAVITATION AND INERTIAL MOTION.

THE MOON DEPENDS UPON UNDERSTANDING HOW THE POSITION AND MOTION OF BODIES IN
AVITATION AND INERTIAL MOTION.

EVOLUTION DIFFER FOR DIFFERENT BODIES IN SPACE.

BETWEEN DISTANCES AND TIME IN SPACE TRAVEL.

ISTANCES IN SPACE REQUIRE A NEW UNIT OF MEASUREMENT.

MEASURING THE DISTANCE TO OBJECTS IN SPACE.

F THE LAWS OF MOTION TO A MOON LAUNCH AND LANDING.

A SPACECRAFT TO THE MOON IS AFFECTED BY GRAVITATION.

COULD GET COMPLETELY AWAY FROM GRAVITATION.

UT ONE'S MASS ON THE MOON.

NE WOULD FIGURE ONE'S WEIGHT ON THE MOON.

0205635	SOLAR SYSTEM (STARS)	
0205635001	BECOME AWARE OF THE ENORMOUS TEMPERATURES OF STARS.	
0205635002	KNOW THAT THE STARS ARE CONTINUALLY CHANGING.	
0205635003	EXPLAIN WHAT A SPECTROSCOPE TELLS US ABOUT THE	T
0205635004	DEMONSTRATE OR TELL HOW WE KNOW THAT THE STARS MOVE.	
0205635005	DEMONSTRATE THAT A TELESCOPE MUST MOVE TO STAY POINTED AT NORTH STAR WITH SHUTTER OPEN THREE HOURS CAUSING	A C
0206635	SOLAR SYSTEM (STARS)	
0206635001	KNOW THAT NUCLEAR REACTIONS PRODUCE THE RADIANT ENERGY	O
0206635002	KNOW THAT NUCLEAR REACTIONS ARE THE SOURCE OF THE SUN'S	E
0206635003	KNOW THAT ANALYSIS OF LIGHT FROM A STAR HELPS US THROUGH THE DOPPLER EFFECT FOR LIGHT.	D
0206635004	KNOW THAT THE HEAT ENERGY OF A STAR IS A CLUE TO ITS	S
0206635005	KNOW THAT THE HEAT, TEMPERATURE, AND SIZE OF A STAR CAN	B
0206635006	KNOW THAT THE TOTAL HEAT AND LIGHT ENERGY OF A STAR IS A	F
0206635007	KNOW THAT THE MILKY WAY GALAXY IS VAST IN THE NUMBER OF	I
0206635008	KNOW THAT THE NUMBER OF STARS IS ESTIMATED BY SAMPLING	R

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OUS TEMPERATURES OF STARS.

ONTINUALLY CHANGING.

PE TELLS US ABOUT THE         TEMPERATURE AND SUBSTANCES IN A STAR.

E KNOW THAT THE STARS MOVE.

OPE MUST MOVE TO STAY POINTED   AT THE SAME STAR BY USING CAMERA REMAINING MOTIONLESS
R OPEN THREE HOURS CAUSING      CURVED TRACKS OF LIGHT ON FILM.



NS PRODUCE THE RADIANT ENERGY   OF STARS, AND CONSEQUENT CHANGE.

NS ARE THE SOURCE OF THE SUN'S  ENERGY.

HT FROM A STAR HELPS US         DETERMINE ITS DIRECTION TOWARD OR AWAY FROM THE EARTH
T FOR LIGHT.

 OF A STAR IS A CLUE TO ITS     SIZE.

RATURE, AND SIZE OF A STAR CAN  BE DETERMINED BY ANALYSIS OF ITS LIGHT.

AND LIGHT ENERGY OF A STAR IS A FURTHER CLUE TO ITS SIZE.

ALAXY IS VAST IN THE NUMBER OF  ITS STARS AND THE DISTANCES BETWEEN THEM.

TARS IS ESTIMATED BY SAMPLING   REGIONS OF A GALAXY.
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0206635009      KNOW THAT IN ORDER TO ESTIMATE THE TOTAL NUMBER OF STARS IN
                DIMENSIONS. THE LIGHT-YEAR UNIT OF DISTANCE IS          CON

0206635010      KNOW THAT WE SEE THE SOLAR SYSTEM AND OUR GALAXY AS IT   WAS

0206635011      KNOW THAT STARS ARE CONTINUALLY CHANGING.

0206635012      KNOW THAT MOST STARS UNDERGO GRADUAL CHANGE.

0206635013      KNOW THAT SYSTEMS OF STARS MAY HAVE FORMED FROM         SU

0206635014      KNOW THAT THE POSITION OF THE STARS CHANGES IN A        PRE

0206635015      KNOW THAT THE CHANGING POSITIONS OF BODIES IN SPACE CAN  BE
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THE TOTAL NUMBER OF STARS IN THE MILKY WAY, WE MUST DETERMINE THE GALAXY'S
IT OF DISTANCE IS CONVENIENT.

STEM AND OUR GALAXY AS IT WAS IN THE PAST.

Y CHANGING.

GRADUAL CHANGE.

Y HAVE FORMED FROM SUPERNOVAS.

STARS CHANGES IN A PREDICTABLE AND ORDERLY WAY.

ONS OF BODIES IN SPACE CAN BE PLOTTED WITH ACCURACY.

0201640	SOUND
0201640001	RECOGNIZE OBJECTS THAT MAKE SOUNDS THAT YOU CAN HEAR.
0201640002	GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE WHIC
0201640003	GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE WHIC
0201640004	GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE WHIC
0201640005	CLASSIFY OBJECTS BY THE SOUNDS THEY MAKE.
0202640	SOUND
0202640001	KNOW THAT SOUND IS A RESULT OF SOMETHING MOVING.
0202640002	DEMONSTRATE THAT SOUND IS A RESULT OF SOMETHING MOVING, BY U BANDS.
0202640003	KNOW THAT SOUND TRAVELS THROUGH VARIOUS SUBSTANCES, SUCH AS W
0202640004	DEMONSTRATE THAT SOUND TRAVELS THROUGH VARIOUS SUBS SIMPLE SOUND MAKERS.
0202640005	KNOW THAT SOME SOUNDS ARE HIGH AND SOME ARE LOW, BY VARY
0202640006	DEMONSTRATE THAT SOME SOUNDS ARE HIGH AND SOME ARE LOW, BY V MAKERS, SUCH AS DIFFERENT SIZE RUBBERBANDS ON A SOUND BOX.
0202640007	KNOW THAT THE PAPER HORN HELPS THE EAR COLLECT MERE SOUN
0202640008	CONSTRUCT A PAPER HORN FOR LISTENING, USING CONSTRUCTION PAPE

SOUNDS THAT YOU CAN HEAR.

ANOTHER SOUND, RECOGNIZE WHICH SOUND IS LOUDER.

ANOTHER SOUND, RECOGNIZE WHICH SOUND HAS HIGHER PITCH.

ANOTHER SOUND, RECOGNIZE WHICH SOUND IS MORE PLEASANT.

DS THEY MAKE.

OF SOMETHING MOVING.

RESULT OF SOMETHING MOVING, BY USING SIMPLE MATERIALS SUCH AS SOUND BOXES AND RUBBER

UGH VARIOUS SUBSTANCES, SUCH AS WOOD, WATER, AND AIR.

LS THROUGH VARIOUS SUBSTANCES, SUCH AS WOOD, WATER, AND AIR, BY USING

GH AND SOME ARE LOW, BY VARYING DIMENSIONS AND VIBRATING SPEED OF SOUND MAKERS.

ARE HIGH AND SOME ARE LOW, BY VARYING DIMENSIONS AND VIBRATING SPEED OF SOUND
ZE RUBBERBANDS ON A SOUND BOX.

LPS THE EAR COLLECT MERE SOUND.

ISTENING, USING CONSTRUCTION PAPER AND PAPER FASTENERS.

0202640009	DEMONSTRATE THAT THE PAPER HORN HELPS THE EAR COLLECT MO LISTENS TO SOUNDS.
0203640	SOUND
0203640001	DEMONSTRATE HOW SOUNDS WILL BE DIFFERENT WHEN MADE BY DI
0204640	SOUND
0204640001	EXPLAIN HOW SOUND AS A VIBRATION CREATES A TO-AND-FRO MO
0204640002	KNOW THAT SOUND IS CAUSED BY A VIBRATING OBJECT.
0204640003	EXPLAIN THE STATEMENT - WHERE THERE IS SOUND THERE IS MO
0204640004	DESCRIBE THAT THE RUBBER BAND AND RULER MOVE AS SOUND IS PR
0204640005	DEMONSTRATE THAT VIBRATION CAUSES SOUND.
0204640006	DEMONSTRATE MAKING OF SOUND, BY PLUCKING A RUBBER BAND ST ONE END IS HELD AGAINST A TABLE.
0204640007	KNOW THAT SOUND TRAVELS IN WAVES, BY MOLECULAR MOTION.
0204640008	DEMONSTRATE A WAVE BY FLIPPING A LOOP ALONG A ROPE THAT IS LENGTH OF THE ROPE.
0204640009	KNOW THAT SOUND TRAVELS BY THE MOTION OF MOLECULES.
0204640010	DISCOVER BY INVESTIGATION THAT WAVES TRANSMIT ENERGY IN AL

ORN HELPS THE EAR COLLECT MORE SOUND, BY HOLDING THE HORN AGAINST HIS EAR WHILE HE

BE DIFFERENT WHEN MADE BY DIFFERENT OBJECTS.

TION CREATES A TO-AND-FRO MOTION.

A VIBRATING OBJECT.

E THERE IS SOUND THERE IS MOVEMENT.

D AND RULER MOVE AS SOUND IS PRODUCED.

AUSES SOUND.

BY PLUCKING A RUBBER BAND STRETCHED AROUND A PIE TIN AND BY PLUCKING A RULER WHILE
BLE.

AVES, BY MOLECULAR MOTION.

NG A LOOP ALONG A ROPE THAT IS TIED AT THE OTHER END, CAUSING THE LOOP TO TRAVEL THE

HE MOTION OF MOLECULES.

AT WAVES TRANSMIT ENERGY IN ALL DIRECTIONS.

0204640011 CONSTRUCT A STRING TELEPHONE, USING TEN FEET OF STRING AND TW

0204640012 DESCRIBE THAT SOUNDS PASS BETTER THROUGH A SOLID THAN THROUGH
WITHOUT THE STRING TELEPHONE AND BY COMPARING SOUNDS TAPPED

0204640013 DEMONSTRATE THAT SOUND IN THE AIR PASSES THROUGH A SOLID,

0204640014 KNOW THAT SOUND TRAVELS APPROXIMATELY 1,100 FEET PER SECOND

0204640015 KNOW HOW SOUND CAN BE ABSORBED.

0204640016 KNOW THAT WHEN SOUND HITS A WALL IT CAN BOUNCE BACK.

0204640017 KNOW THAT AN ECHO IS CAUSED BY THE BOUNCE OF SOUND.

0204640018 KNOW THAT THE MOLECULAR THEORY EXPLAINS WHY SOUND TRAVELS

0204640019 KNOW THAT THE PITCH OF A SOUND DEPENDS ON THE RATE OF THE VIB

0204640020 DISCOVER THAT THE RATE OF VIBRATION CAN BE CHANGED IN DIFFERE

0204640021 STATE TWO WAYS TO CHANGE PITCH.

0204640022 DEMONSTRATE TO PUPILS THAT CHANGING THE RATE OF VIBRATI

0204640023 USE A RULER OR RUBBER BANDS TO DEMONSTRATE THE CHANGES IN PITC

0204640024 DEMONSTRATE HIGH AND LOW PITCH SOUNDS BY PULLING A PIECE OF STIF
DIFFERENT SPEEDS.

, USING TEN FEET OF STRING AND TWO PAPER CUPS.

TER THROUGH A SOLID THAN THROUGH AIR, BY COMPARING WHISPERS HEARD WITH AND
AND BY COMPARING SOUNDS TAPPED ON WALL WITH AND WITHOUT EAR ON WALL.

AIR PASSES THROUGH A SOLID, BY USING THE STRING TELEPHONE.

XIMATELY 1,100 FEET PER SECOND IN THE AIR.

ED.

ALL IT CAN BOUNCE BACK.

Y THE BOUNCE OF SOUND.

RY EXPLAINS WHY SOUND TRAVELS BETTER IN A SOLID THAN IN A GAS.

ND DEPENDS ON THE RATE OF THE VIBRATION.

RATION CAN BE CHANGED IN DIFFERENT WAYS.

CH.

HANGING THE RATE OF VIBRATION CHANGES THE PITCH.

TO DEMONSTRATE THE CHANGES IN PITCH.

CH SOUNDS BY PULLING A PIECE OF STIFF CARDBOARD ACROSS THE TEETH OF A COMB, AT

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0204640025      IDENTIFY HIGH PITCH WITH FAST VIBRATIONS OF THE       CARD

0204640026      IN A MATCHING TEST SHOW KNOWLEDGE OF HOW SOUND TRAVELS,  THE



0206640         SOUND

0206640001      KNOW THAT SOUND IS THE VIBRATION OF MOLECULES IN A    WAVEL

0206640002      USE MOLECULAR THEORY AND THE WAVE THEORY TO EXPLAIN HOW  SOUN
                PERSON WHO HEARS IT.

0206640003      TELL WHAT CONDITIONS ARE NEEDED FOR MAKING AND HEARING   SOUN

0206640004      GIVEN EXPERIMENT WHICH PRODUCES DIFFERENT NUMBERS OF   WAVES
                PER SECOND (FREQUENCY) IS RELATED TO AMOUNT OF FORCE   REQU

0206640005      GIVEN EXPERIMENT AND DIAGRAM SHOWING RESULTS OF        EXPE
                (HEIGHT OR DEPTH) OF THE WAVES AND THE FORCE IT TOOK TO  MAKE

0206640006      DETERMINE THE DISTANCE TRAVELED BY A SOUND THROUGH THE   AIR
                FROM ITS SOURCE TO THE HEARER.

0206640007      GIVEN LIST OF MATERIALS OR SUBSTANCES THAT TRANSMIT    SOUN
                THOSE WHICH ARE POOR CONDUCTORS.

0206640008      GIVEN DESCRIPTION OF THE SURFACE OF A MATERIAL, TELL   WHET
                ECHO (REFLECT) IT.

0206640009      DESIGN EXPERIMENT WHICH DEMONSTRATES RELATIONSHIP      BETW
                AMOUNT OF ENERGY TO VARY THE VOLUME OF SOUND PRODUCED).

0206640010      RECOGNIZE RELATIVE VOLUME OF A SERIES OF SOUNDS (LOUDEST OR S
                OR WHEN GIVEN DATA ABOUT THE AMPLITUDE OF VOLUME.

0206640011      TELL HOW THE PITCH (FREQUENCY) OF A SOUND CAN BE RAISED  OR L
                VIBRATING OBJECT IS CHANGED.
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RATIONS OF THE CARDBOARD AND COMB, AND LOW PITCH WITH SLOW VIBRATIONS.

OF HOW SOUND TRAVELS, THE CAUSE OF ECHO, AND THE SPEED OF THE TRAVEL OF SOUND.

OF MOLECULES IN A WAVELIKE PATTERN.

THEORY TO EXPLAIN HOW SOUND TRAVELS FROM ITS SOURCE (OR BEGINNING) TO THE

OR MAKING AND HEARING SOUNDS.

IFFERENT NUMBERS OF WAVES, DRAW DIAGRAM TO DEMONSTRATE THAT NUMBER OF WAVES
TO AMOUNT OF FORCE REQUIRED TO MAKE THEM.

ING RESULTS OF EXPERIMENT, RECOGNIZE RELATIONSHIP BETWEEN AMPLITUDE
D THE FORCE IT TOOK TO MAKE THOSE WAVES.

Y A SOUND THROUGH THE AIR GIVEN THE NUMBER OF SECONDS SOUND TAKES TO TRAVEL

NCES THAT TRANSMIT SOUND, IDENTIFY THOSE WHICH CARRY SOUND WAVES WELL AND

OF A MATERIAL, TELL WHETHER THE SURFACE WILL TAKE IN SOUND (ABSORB IT), OR

TES RELATIONSHIP BETWEEN EXPENDED ENERGY AND VOLUME OF SOUND. (CHANGE
ME OF SOUND PRODUCED).

RIES OF SOUNDS (LOUDEST OR SOFTEST) WHEN SHOWN GRAPHS PICTURING THEIR AMPLITUDE,
ITUDE OF VOLUME.

A SOUND CAN BE RAISED OR LOWERED WHEN THE LENGTH, THICKNESS, OR TENSION OF THE

0202645	SYSTEMS (INTERACTIONS)
0202645001	FIND INFORMATION ABOUT HOW LIVING THINGS INTERACT WITH THEIR
0202645002	EXPLAIN WHAT FACTORS WILL INFLUENCE THE GROWTH OF AN ORGAN
0202645003	DESCRIBE HOW THINGS IN AN AQUARIUM INTERACT TO KEEP IT BALAN
0202645004	TELL WHAT SHOULD BE ADDED TO THE CLASS AQUARIUM TO KEEP THE A
0202645005	PRESENT ORALLY TO A GROUP FINDINGS ABOUT HOW ORGANISMS INTER EXAMPLES.
0202645006	DEMONSTRATE THROUGH DRAWING, WRITING, OR SEQUENCING PICTU ON THE SUN).
0202645007	CLASSIFY SYSTEMS OF OBJECTS ACCORDING TO WHETHER THEY SHOW
0202645008	FIND EVIDENCE OF INTERACTION BY COMPARING SIMILAR EXPER
0202645009	IDENTIFY INTERACTING OBJECTS IN DEMONSTRATIONS OR PICTU
0202645010	RECOGNIZE EVIDENCE OF INTERACTION IN DEMONSTRATIONS OR PICTU
0202645011	RECOGNIZE CONSERVATION WITHIN A SYSTEM IN WHICH OBJECTS CHANGE
0202645012	USING VARIOUS SENSES, FIND EVIDENCE OF INTERACTION.
0202645013	IDENTIFY THE SENSE OR SENSES USED TO OBSERVE INTERACTION AT A

ING THINGS INTERACT WITH THEIR ENVIRONMENT. WRITE DOWN WHAT YOU FIND.

ENCE THE GROWTH OF AN ORGANISM.

RIUM INTERACT TO KEEP IT BALANCED.

HE CLASS AQUARIUM TO KEEP THE AQUARIUM BALANCED.

NGS ABOUT HOW ORGANISMS INTERACT IN THEIR ENVIRONMENT USING PICTURES OR REAL

ITING, OR SEQUENCING PICTURES THE MEANING OF FOOD CHAIN, (INCLUDE DEPENDENCE

ORDING TO WHETHER THEY SHOW EVIDENCE OF INTERACTION AT A DISTANCE.

COMPARING SIMILAR EXPERIMENTS.

DEMONSTRATIONS OR PICTURES.

ON IN DEMONSTRATIONS OR PICTURES.

SYSTEM IN WHICH OBJECTS CHANGE IN APPEARANCE.

ENCE OF INTERACTION.

ED TO OBSERVE INTERACTION AT A DISTANCE. (MAGNETISM)

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0201650        SYSTEMS AND SUBSYSTEMS

0201650001     KEEP AN ACCURATE RECORD OF OBJECTS BELONGING TO A      SY

0201650002     CLASSIFY OBJECTS AND MATERIALS INTO SYSTEMS AND        SU


0202650        SYSTEMS AND SUBSYSTEMS

0202650001     RECOGNIZE SYSTEMS OF INTERACTING OBJECTS.

0202650002     IDENTIFY SYSTEMS OF OBJECTS THAT INTERACT AT A DISTANCE.

0202650003     USE THE WORD SYSTEM CORRECTLY BY RECOGNIZING COMMON    EL
               SYSTEM.
0202650004     USE THE WORD SYSTEM TO REFER TO A GROUP OF RELATED     OE
               WHICH MAKE THEM PART OF THE SAME SYSTEM.


0203650        SYSTEMS AND SUBSYSTEMS

0203650001     IDENTIFY DEFINITIONS AND EXAMPLES OF SYSTEMS.

0203650002     NAME THE PARTS OF A SOLUTION THAT ARE SUBSYSTEMS OF THAT SO

0203650003     NAME THE PARTS OF A FILTERING SYSTEM AND TELL WHAT THEY  DO
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S BELONGING TO A SYSTEM.

TO SYSTEMS AND SUBSYSTEMS.

OBJECTS.

INTERACT AT A DISTANCE.

RECOGNIZING COMMON ELEMENTS OF OBJECTS WHICH MAKE THEM PART OF THE SAME

GROUP OF RELATED OBJECTS AND RECOGNIZE THE COMMON ELEMENTS OF OBJECTS
SYSTEM.

OF SYSTEMS.

ARE SUBSYSTEMS OF THAT SOLUTION.

TEM AND TELL WHAT THEY DO.

0205655 UNIVERSE

0205655001 KNOW THAT THE UNIVERSE IS IN CONSTANT CHANGE.

0205655002 KNOW THAT COMPONENT BODIES OF THE UNIVERSE ARE IN CON

0205655003 GIVEN APPROPRIATE REFERENCE MATERIALS, MAKE AN OUTLINE OF

0205655004 REPORT IN ORAL OR WRITTEN FORM ON THIS TOPIC, 'A RULER FOR
DEMONSTRATIONS OR DRAWINGS.

NSTANT CHANGE.

HE UNIVERSE ARE IN CONSTANT MOTION.

ERIALS, MAKE AN OUTLINE OF THE MANY COMPONENT PARTS OF THE UNIVERSE.

ON THIS TOPIC, 'A RULER FOR THE UNIVERSE,' AND SUPPORT THE REPORT WITH

0204660	WATER
0204660001	KNOW THAT THE WATER SUPPLY IS THE RESULT OF THE CYCLE
0204660002	DRAW AND EXPLAIN A DIAGRAM SHOWING THE WATER CYCLE.
0204660003	EXPLAIN THE WORK OF THE SUN IN THE WATER CYCLE.
0204660004	KNOW THAT WATER IS A COMPONENT OF ALL ORGANISMS.
0204660005	STATE THAT WATER IS A PART OF ALL LIVING THINGS.
0204660006	EXPLAIN HOW SAND CAN BE USED TO FILTER SOME MATERIALS
0204660007	CONSTRUCT A MODEL OF A WATER PURIFYING SYSTEM, BY OVER THE COTTON, SO THAT POURED LIQUIDS WILL PASS
0204660008	DEMONSTRATE THE USE OF THE MODEL WATER-PURIFIER BY FILTERING OUT SOIL PARTICLES, AND ALLOWING MUCH CLEARE
0204660009	DEMONSTRATE THAT SETTLING IS ONE WAY OF CLEANING WATER STAND FOR A WHILE, CAUSING PARTICLES TO SETTLE TO THE
0204660010	KNOW THAT WATER CONTAINING DISSOLVED SUBSTANCES IS
0204660011	KNOW THAT THE WATER TABLE MARKS THE WATER LEVEL IN SOI
0204660012	DEMONSTRATE THERE IS A QUANTITY OF WATER IN AN APPLE B INTO SMALL PIECES ALLOWING THEM TO DRY FOR FEW DAYS AN
0204660013	DESCRIBE THE WEIGHT OF THE APPLE BEFORE AND AFTER OF THE WATER LOST FROM THE APPLE.

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E RESULT OF THE CYCLE OF EVAPORATION AND CONDENSATION.

NG THE WATER CYCLE.

HE WATER CYCLE.

F ALL ORGANISMS.

L LIVING THINGS.          (DEMONSTRATING THAT THERE IS WATER IN FOOD).

FILTER SOME MATERIALS     OUT OF WATER.

IFYING SYSTEM, BY         PLACEING COTTON IN A FUNNEL AND ADDING A LAYER OF SAND
LIQUIDS WILL PASS         THROUGH THE FILTER INTO A JAR.

 WATER-PURIFIER BY        POURING WATER FROM THE SETTLING JAR INTO THE FUNNEL
D ALLOWING MUCH CLEARER   WATER TO PASS THROUGH.

 WAY OF CLEANING WATER,   BY MIXING WATER AND SOIL, THEN ALLOWING THE MIXTURE TO
CLES TO SETTLE TO THE     BOTTOM.

LVED SUBSTANCES IS        HEAVIER THAN PURE WATER.

THE WATER LEVEL IN SOIL.

OF WATER IN AN APPLE BY   WEIGHING APPLE WITH SPRING SCALE.  THEN CUTTING APPLE
TO DRY FOR FEW DAYS AND   WEIGHING PIECES AGAIN.

 BEFORE AND AFTER         DRYING, THE WEIGHT LOST FROM THE APPLE, AND THE WEIGHT
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0205665	WEATHER
0205665001	WHEN PRESENTED WITH A LIST OF TERMS CONCERNING WEATHER, C TERMS RELATING TO WEATHER AND WEATHER CONDITIONS.
0206665	WEATHER
0206665001	TELL THE DIFFERENCE BETWEEN WEATHER AND CLIMATE. TELL WH

ERMS CONCERNING WEATHER, CORRECTLY DEFINE IN WRITING TEN OUT OF FIFTEEN OF THESE
EATHER CONDITIONS.

THER AND CLIMATE. TELL WHAT ATMOSPHERIC CONDITIONS ARE CHARACTERISTIC OF EACH.

0204670	WEATHER (CLOUDS)
0204670001	KNOW AS RISING AIR COOLS, WATER VAPOR CONDENSES TO FOR
0206670	WEATHER (CLOUDS)
0206670001	IDENTIFY BASIC CLOUD TYPES (CUMULUS, CIRRUS, AND CLOUD FORMATIONS.

ER VAPOR CONDENSES TO FORM A CLOUD.

UMULUS, CIRRUS, AND STRATUS) WHEN GIVEN A DRAWING OR DESCRIPTION OF THESE

0206675 WEATHER (FRONTS)

0206675001 RECOGNIZE THE FOUR KINDS OF WEATHER FRONTS (WARM, COLD, STA
EXAMPLE OF EACH.

HER FRONTS (WARM, COLD, STATIONARY, AND OCCLUDED) WHEN GIVEN A DESCRIPTION OR

0204680	WEATHER (PRECIPITATION)
0204680001	KNOW THAT RAIN FORMS AS CLOUD DROPLETS COME TOGETHER INT
0204680002	UNDERSTAND THAT CLOUD DROPLETS ARE FORMED BY THE COOLING OF
0204680003	KNOW THAT CLOUD DROPLETS COLLIDE TO MAKE RAINDROPS.
0204680004	UNDERSTAND HOW ICE SPECKS MELT TO MAKE RAINDROPS.
0206680	WEATHER (PRECIPITATION)
0206680001	MATCH DIFFERENT FORMS OF PRECIPITATION (RAIN, SLEET, HAIL

CLOUD DROPLETS COME TOGETHER INTO LARGER DROPS OF WATER.

OPLETS ARE FORMED BY THE COOLING OF WATER VAPOR.

COLLIDE TO MAKE RAINDROPS.

S MELT TO MAKE RAINDROPS.

PRECIPITATION (RAIN, SLEET, HAIL, SNOW) WITH DESCRIPTION OF HOW EACH IS FORMED.

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0205685         WEATHER (PREDICTION)

0205685001      CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM   AN AE
                WIND AT A GIVEN TIME.

0205685002      CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM A TIDE
                GIVEN TIME.

0205685003      CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM   AN AN

0205685004      FROM OBSERVATIONS AND WEATHER KNOWLEDGE, INTERPRET       INFOR


0206685         WEATHER (PREDICTION)

0206685001      GIVEN INFORMATION ABOUT FACTORS WHICH CAUSE MOVEMENT OF  AIR M
                TEMPERATURES AND OTHER FACTORS WHICH CAUSE UNEQUAL       HEATI

0206685002      PREDICT CHANGES IN THE WEATHER WHEN GIVEN READINGS FROM  RECOR
                HYGROMETER).

0206685003      WHEN GIVEN DATA ON A WEATHER MAP, PREDICT THE PARTICULAR TYPES

0206685004      MATCH THE TOOLS USED BY METEOROLOGISTS (ELECTRONIC       COMPU
                SATELLITES) WITH THEIR FUNCTIONS IN PREDICTING WEATHER.
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D ON THE DATA TAKEN FROM AN AEROVANE TO SHOW THE VELOCITY AND DIRECTIONS OF THE

D ON THE DATA TAKEN FROM A TIDE GAUGE TO SHOW THE RISE AND FALL OF THE TIDES AT A

D ON THE DATA TAKEN FROM AN ANENOMETER.

KNOWLEDGE, INTERPRET INFORMATION SHOWN IN A TABLE OR A GRAPH.

S WHICH CAUSE MOVEMENT OF AIR MASSES (ANGLE OF SUN'S RAYS, NIGHT AND DAY
WHICH CAUSE UNEQUAL HEATING), PREDICT PROBABLE DIRECTION OF AIR MOVEMENT.

WHEN GIVEN READINGS FROM RECORDING INSTRUMENTS (THERMOMETER, BAROMETER, AND

AP, PREDICT THE PARTICULAR TYPES OF WEATHER CONDITIONS IN THAT AREA.

OLOGISTS (ELECTRONIC COMPUTERS, RADAR, RADIOSONDE, WEATHER BALLOONS AND
NS IN PREDICTING WEATHER.

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0204690        WEATHER (RECORDING)

0204690001     KEEP DAILY RECORD OF YOUR OBSERVATIONS OF ELEMENTS OF     WEAT
               FOR RECORDING ANY INFORMATION YOU CANNOT OBSERVE          YOUR

0204690002     USING A RAIN-GAUGE, ACQUIRE DATA EACH DAY TO MAKE A       LONG

0204690003     USING A RAIN GAUGE, RECORD THE AMOUNT OF RAINFALL FOR A  MONT

0204690004     USING THE THERMOMETER, ACQUIRE DATA EACH DAY TO MAKE A    LONG

0204690005     USING A WIND VANE, ACQUIRE DATA EACH DAY TO MAKE A        LONG

0204690006     USING WEATHER INSTRUMENTS, OBSERVATIONS AND WEATHER       KNOW
               TABLE OR GRAPH.

0204690007     CONSTRUCT A POINT GRAPH OR LINE GRAPH FROM A WEATHER      MAP

0204690008     FROM OBSERVATIONS AND WEATHER KNOWLEDGE, INTERPRET        INFO

0204690009     CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM    AN A
               WIND AT A GIVEN TIME.

0204690010     CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM    AN A

0204690011     CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM A TIDE
               GIVEN TIME.


0206690        WEATHER (RECORDING)

0206690001     GIVEN DESCRIPTION OF A WEATHER CONDITION, IDENTIFY THE    APPR
               THE SPECIFIED CONDITION.

0206690002     CONSTRUCT A POINT GRAPH OR LINE GRAPH FROM THE WEATHER    FORE
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BSERVATIONS OF ELEMENTS OF WEATHER FOR TWO WEEKS. USE REPORTS FROM WEATHER BUREAU
ON YOU CANNOT OBSERVE YOURSELF.

DATA EACH DAY TO MAKE A LONG-RANGE WEATHER CHART.

THE AMOUNT OF RAINFALL FOR A MONTH AND GRAPH THIS INFORMATION ON A LINE GRAPH.

IRE DATA EACH DAY TO MAKE A LONG-RANGE WEATHER CHART.

DATA EACH DAY TO MAKE A LONG-RANGE WEATHER CHART.

OBSERVATIONS AND WEATHER KNOWLEDGE, IDENTIFY AND NAME ALL INFORMATION SHOWN IN A

LINE GRAPH FROM A WEATHER MAP EACH DAY.

ER KNOWLEDGE, INTERPRET INFORMATION SHOWN IN A TABLE OR GRAPH.

ASED ON THE DATA TAKEN FROM AN AEROVANE TO SHOW THE VELOCITY AND DIRECTIONS OF THE

ASED ON THE DATA TAKEN FROM AN ANEMOMETER.

ASED ON THE DATA TAKEN FROM A TIDE GAUGE TO SHOW THE RISE AND FALL OF THE TIDES AT A

HER CONDITION, IDENTIFY THE APPROPRIATE RECORDING INSTRUMENT FOR THE MEASUREMENT OF

LINE GRAPH FROM THE WEATHER FORECAST EACH DAY.

0206695	WEATHER (STORMS)
0206695001	RECOGNIZE DEFINITIONS OF DESTRUCTIVE FORCES OF WEATHER (THUNDE WHEN GIVEN A DESCRIPTION OR DIAGRAM OF EACH STORM.

FORCES OF WEATHER (THUNDERSTORM, CYCLONE, TYPHOON, HURRICANE, AND TORNADO
OF EACH STORM.

0201700	WEATHER (TEMPERATURE)
0201700001	KNOW THAT CHANGES IN TEMPERATURE CAN BE DISTINGUISHED BY USI
0201700002	DISTINGUISH BETWEEN CHANGES IN TEMPERATURE, AS INDICATED ON UPWARD IN A WARMER ENVIRONMENT AND DOWNWARD IN A COLDER ENV
0201700003	READ THERMOMETER CORRECTLY 10 OUT OF 12 TIMES.

RE CAN BE DISTINGUISHED BY USING A THERMOMETER.

TEMPERATURE, AS INDICATED ON A THERMOMETER, BY OBSERVING THERMOMETER COLUMN MOVE
AND DOWNWARD IN A COLDER ENVIRONMENT.

OUT OF 12 TIMES.